

Article

The Contribution of China's Civil Law to Sustainable Development: Progress and Prospects

Tiantian Zhai ¹ and Yen-Chiang Chang ^{2,*} ¹ School of Law, Shandong University, Qingdao 266237, China; Tiantianzhai@mail.sdu.edu.cn² School of Law, Dalian Maritime University, Dalian 116026, China

* Correspondence: ycchang@dlnu.edu.cn; Tel.: +86-152-7519-7632

Received: 26 November 2018; Accepted: 3 January 2019; Published: 8 January 2019



Abstract: Environmental protection is mainly the focus of environmental law in China, but as China has started to pursue ecological civilization, its civil law has begun to respond to environmental problems as well, which is called the “greening of civil law”. As a result, the newly passed General Provisions of Civil Law adopted a “Green Principle” requiring private actors to contribute to resources conservation and environmental protection in civil activities. Through normative and comparative analysis, this article explores the establishment of the “Green Principle”, the rationales for civil law’s response to environmental problems in China, the progress already made, and the further efforts that are needed. It argues that the major challenge for the greening of China’s civil law at present is the modification of the subsequent sections of the forthcoming civil code. Despite the progress that has already been made, further efforts are needed regarding the following aspects: environmental and resources protection should be taken into account in contract rules concerning the validity, performance, and interpretation of contracts, and rules on emission trading contracts should be added; the property section should stipulate the unified exercise of state ownership over natural resources; and the “personality rights” section should stipulate environmental rights so as to clarify the right that is violated in environmental public interest litigation.

Keywords: greening of civil law; green principle; civil law codification; ecological civilization; China

1. Introduction

In the past four decades, while experiencing rapid economic development, China has also paid a huge price regarding its environment and resources. In response, the construction of ecological civilization has risen to an important political goal in China. For instance, the report by President Hu Jintao to the 18th National Congress of the Communist Party of China (CPC) in 2012 emphasized efforts to promote ecological progress [1]. In 2013, the Third Plenary Session of the 18th CPC Central Committee passed the Decision on Important Issues of Deepening the Reform, Part 14 of which stressed the establishment of a complete ecological civilization system [2]. In 2014, the Fourth Plenary Session of the 18th CPC Central Committee passed the Decision on Important Issues of Comprehensively Promoting Rule by Law, Part 2 (4) of which emphasized the protection of the ecological environment by a strict legal system [3]. In 2015, the CPC Central Committee and the State Council successively passed Opinions on Accelerating the Construction of Ecological Civilization and Overall Plan for the Reform of Ecological Civilization System, which clarified the guiding principles, objectives, and measures for the construction of ecological civilization. The Fifth Session of the 18th CPC Central Committee in 2015 passed the Proposal on Formulating the 13th Five-Year Plan of National Economy and Social Development, which regarded “green development” as one of the five basic principles of development.

In October 2017, during the 19th National People’s Congress, President Xi Jinping emphasized again “speeding up reform of the ecological civilization system and building a beautiful China”.

He pointed out that “in addition to creating more material and cultural wealth to meet people’s ever-increasing needs for a better life, we also need to provide more high-quality ecological products to meet people’s ever-growing demands for a beautiful environment”. To that end, China should promote green development, solve prominent environmental problems, intensify the protection of ecosystems, and reform the environmental regulation system [4].

Political policies in China have an important bearing on its legislation [5–10], and in return powerful legal rules are indispensable to the effective implementation of political policies. The civil law of China, which regulates personal and property relations between private actors, is no exception. As a political target, the pursuit of ecological civilization is a catalyst inducing the revision of civil law based on sustainable development, which is called “the greening of China’s civil law” by Chinese legal academia. On the other hand, the response of civil law to environmental problems will help China cope with its serious environmental and resources crisis [11]. This phenomenon is particularly so while the codification of civil law is currently in progress in China.

On 15 March 2017, the Fifth Session of the 12th National People’s Congress (NPC) passed the General Provisions of Civil Law, and Article 9 thereof introduced a “Green Principle” as one of the basic principles in China’s civil law, which required that the parties in civil legal relations should contribute to the conservation of resources and the protection of the ecological environment in civil activities [12]. The formulation of the General Provisions of Civil Law is the first and foremost step in the ongoing Chinese civil law codification. It establishes the basic principles of China’s civil law and plays a guiding role for subsequent sections, including property, contracts, personality rights, torts, marriage, family, and inheritance. Article 9 is an innovative provision manifesting green development in civil law. It responds to public concern over environmental protection, and is a major breakthrough in solving environmental problems in China. However, the establishment of the “Green Principle” was not plain sailing; rather, different voices were heard during the process. For instance, after Article 7 of the first draft of the General Provisions of Civil Law included the “Green Principle” as a basic principle of civil law, it was strongly opposed by some scholars with the view that environmental protection is not the task of civil law, but rather that of environmental law, and the “Green Principle”, which is different in nature from other principles in civil law, severely disrupts the otherwise coherent civil law system [13]. Besides, it serves just as a guiding principle, and whether it can be effectively implemented remains to be seen from the following sections of the civil code.

On 27 August 2018, six draft sections on specific areas of civil law were submitted for review to the Standing Committee of the National People’s Congress. Following the “Green Principle”, those drafts made several amendments to the previous rules on contracts and torts. Although they have made progress, it is far from enough for a thorough response by civil law to environmental protection.

This article mainly applies normative and comparative analysis. Normative analysis is the most frequently used legal methodology in civil law countries, and it also runs through this research centering on China’s legislative efforts to protect the ecological environment and facilitate sustainable development during its civil law codification. With this methodology, this article first reviews the establishment of the “Green Principle” in the General Provisions of Civil Law with China’s civil law codification as the broad legal background. Then, it carries out in-depth analysis of the rationales for civil law’s response to environmental and resources problems. Finally, this article examines the progress already made in the implementation of the “Green Principle”, and points out further amendments needed to the draft sections of China’s civil code. Comparative analysis is also applied in this research by looking at the greening of civil law from an international perspective. Relevant examples and successful practices from other civil law countries will be provided during the process of discussion. Of course, this article is also based on prior research made mostly by Chinese scholars. For instance, before the adoption of the “Green Principle” by the 2017 General Provisions of Civil Law, some scholar proposed the concept of “Green Civil Code” as early as 2002 [14]. With the establishment of the “Green Principle”, sporadic publications also come along on the interpretation of the principle [15]. Such publications are properly cited in this research. However, after the first official review of the draft sections of the civil code in August 2018, there hasn’t been any systematic analysis on the progress already made and further efforts needed for the greening

of China's civil law, and that's where the major contribution of this research lies. That is, it proposes that the property section should stipulate the unified exercise of State ownership over natural resources. The contracts section should factor environmental and resources protection into the validity, performance, and interpretation of contracts, and provide specific regulations in terms of emission trading contracts. The personality rights section should include environmental rights so that it can provide a cause of action for environmental public interest litigation newly adopted in the draft section of torts.

2. The “Green Principle” in the 2017 General Provisions of Civil Law

2.1. Chinese Civil Law Codification

Unlike the common law system, the basis and nature of the civil law system is well characterized by legislative codifications [16]. In civil law jurisdictions, a civil code is largely classified and structured, and contains a large number of general rules and principles regulating the legal relations between individuals. It manifests a highly developed legal culture [17], and is described as a “systematic, authoritative, and guiding statute of broad coverage, breathing the spirit of reform and marking a new start in the legal life of an entire nation” [18]. China, despite being a civil law country, does not currently have a civil code. The broad-brush General Principles of Civil Law [19] has been the fundamental authority on civil matters for decades. Civil law rules on property, contracts, torts, etc. on the other hand, are scattered in various separate enactments, over which a systematic and uniform civil code that compiles all of the relevant civil rules has unparalleled advantages in logical and value consistency [20]. Therefore, codification is an inevitable choice for China's civil law development, and there is plenty of literature on the history, functions, and hotly debated topics of China's civil law codification [21,22]. In 2014, the Decision of the Central Committee of the Communist Party of China on Important Issues of Comprehensively Promoting Rule by Law proposed “to strengthen the construction of a market legal system and to codify China's civil law”, which officially initiated China's journey to civil law codification [3].

According to the legislative plan, civil law codification is a three-step process. The first step is to formulate the General Provisions of Civil Law and submit it to the NPC for review and approval in March 2017. The second step is to formulate subsequent sections of the civil code under the guidance of the General Provisions of Civil Law and submit them for review to the Standing Committee of the NPC. The third step is to combine the subsequent sections with the already passed General Provisions of Civil Law into a draft of the civil code and submit it for review and approval to the third session of the 13th National People's Congress to be held in March 2020 (see Figure 1).



Figure 1. Timeline of Chinese Civil Law Codification. Source: Created by this research.

2.2. The 2017 General Provisions of Civil Law

On 15 March 2017, the General Provisions of Civil Law was formally adopted at the Fifth Session of the 12th NPC. It marks a significant step toward the codification of civil law in China, since those rules lay down the overall framework for the civil code, convey the fundamental value and spirit of China's civil law, and set guiding principles that all the subsequent sections of the civil code must follow [23] (see Figure 2).

After the promulgation of the General Provisions of Civil Law, the 1986 General Principles of Civil Law will remain in force until all of the subsequent sections of the civil code get approved [24]. The reason is that although the two pieces of legislation have a similar framework, the General Provisions of Civil Law doesn't cover all the rules in the 1986 General Principles of Civil Law. Apart from common rules, the 1986 General Principles of Civil Law also includes sporadic provisions on contracts, property, and tort liability, which will be integrated into corresponding sections to be passed in the years to come.

Therefore, the 1986 General Principles of Civil Law will not be superseded automatically by the General Provisions of Civil Law. However, where the two pieces of legislation inconsistently prescribe on the same subject, according to the principle of "lex posterior derogat priori" (later law preempts earlier law), the General Provisions of Civil Law shall apply. For instance, one of the changes in the General Provisions of Civil Law is the lowering of the minimum age at which minors are deemed to have a limited capacity for civil conduct from age ten (as prescribed in the 1986 General Principles of Civil Law) to eight. As a result, minors aged between eight (instead of ten) and 18 years are persons with a limited capacity for civil conduct.

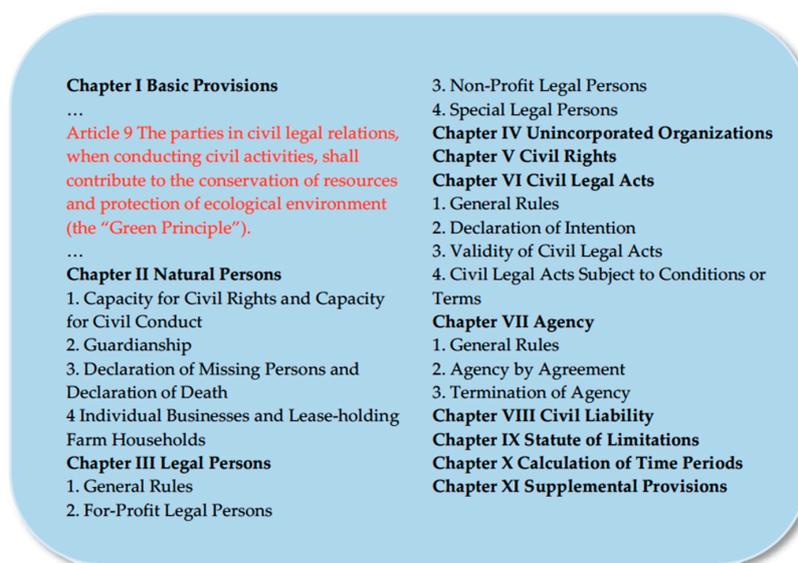


Figure 2. The Framework of General Provisions of Civil Law. Source: Created by this research.

2.3. Establishment of the "Green Principle" in the 2017 General Provisions of Civil Law

One remarkable innovation of the newly passed General Provisions of Civil Law is the adoption of the "Green Principle" in Article 9, which provides that "the parties in civil legal relations, when conducting civil activities, shall contribute to the conservation of resources and protection of the ecological environment". General as this principle is, it is the first time in China that a private law that regulates legal relations between individuals, as compared with environmental law and other public laws, has imposed a mandatory requirement for environmental and natural resources protection. However, notably, the adoption of the "Green Principle" was not all plain sailing. It changed several times before being established as a basic principle in the General Provisions of Civil Law.

Academic discussions on the greening of China's civil law preceded legislation. Generally speaking, Chinese scholars proposed two different approaches to that end: a legislative approach and a judicial interpretation approach. The legislative approach intends to introduce a new article in civil law to mandate environmental and natural resources protection, while the judicial interpretation approach tries to clarify such legal obligation through the interpretation of existing civil law principles [25,26]. Furthermore, there was a divergence of opinions within the second approach as regards the specific principles that the courts should interpret. For instance, some scholars suggested the greening interpretation of the principle of public order and moral [27–29] or good faith or both [30], while others held that multiple principles could be interpreted [31]. The legislature finally preferred the legislative approach, because although the judicial interpretation approach is also legally viable, pressing environmental problems and an urgent need for a timely and effective response to those problems necessitates a new specialized rule in civil law [15].

Then, after civil law codification was put on the agenda by the 2014 Decision of the CPC Central Committee [3], a steering committee was set up, which was headed by the Legislative Commission of the Standing Committee of the NPC, and with the Supreme People's Procuratorate, the Supreme People's Court, the Legislative Affairs Office of the State Council, the Chinese Academy of Social Science, and the China Law Society as members. Two versions of Expert Proposals were drafted by the Chinese Academy of Social Science and the China Law Society, respectively, based on which the steering committee carried out several panel discussions and came up with the first official draft of the General Provisions of Civil Law as a result. The Expert Proposal Draft by the China Law Society includes a "Green Principle" stating that "the parties in civil legal relations, when conducting civil activities, shall contribute to the conservation of resources and the protection of the environment, and promote the harmonious development of man and nature" [32], which had a direct impact on the final establishment of the "Green Principle", because both the first and second official drafts of the General Provisions of Civil Law adopted its expression "promoting the harmonious development of man and nature" [15].

Both the first and second official drafts of the General Provisions of Civil Law regarded the "Green Principle" as a basic principle of the civil code. However, the third official draft moved it from a "basic principle" to "Civil Rights", which was a separate chapter prescribing the property and personal rights enjoyed by private actors in civil activities. It states that "the parties in civil legal relations, when *exercising civil rights*, shall contribute to the conservation of resources and the protection of the ecological environment, promote Chinese culture, and realize core socialist values" [33]. That is because some members of the Standing Committee of the NPC claimed that it was more appropriate to stipulate the obligation of protecting the environment and natural resources from the perspective of exercising civil rights [34]. Accordingly, only when private actors are exercising civil rights are they obliged to conserve natural resources and protect the environment. However, distinguished Chinese civil law scholars insisted on characterizing the requirement as a basic principle in order to make it higher in legal hierarchy and bring it into full play in the context of environmental degradation and natural resources destruction in China [35]. Finally, the fourth official draft and the final version of the General Provisions of Civil Law re-established the "Green Principle", rendering it legally binding on private actors in all civil activities, including exercising civil rights, performing civil obligations, and bearing civil liabilities (See Figure 3).

Since 1 October 2017, the effective date of the General Provisions of Civil Law, there haven't been any cases implementing the "Green Principle". It is, on one hand, attributable to the status of the "Green Principle" as a basic principle in civil law. As with other basic principles of civil law and unlike the specific rules in the following sections of the civil code, the "Green Principle" is more of a guideline, and cannot be applied directly as the basis for trial of cases [15]. It only plays a gap-filling role in the absence of specific civil rules, and how to get it implemented in judicial practice remains to be answered by the specific rules in the subsequent sections of the civil code. On the other hand, another challenge for the implementation of the greening ideas of the new law lies in the general and obscure

expressions, such as “conservation of resources”. For instance, there is no qualitative or quantitative analysis on what constitutes “conservation of resources” and what kinds of behaviors violate such a requirement. As a result, in judicial practice, the application of the greening ideas contained in the subsequent specific rules or the “Green Principle” (when it plays the gap-filling role) may largely depend on the interpretation by the courts. The exercise of the discretionary power by the courts may further increase the uncertainties over the application of the law. However, even so, the establishment of the “Green Principle” still indicates great progress made by the Chinese legal system. It sends an important message that China is determined to combat environmental degradation and pursue sustainable development.

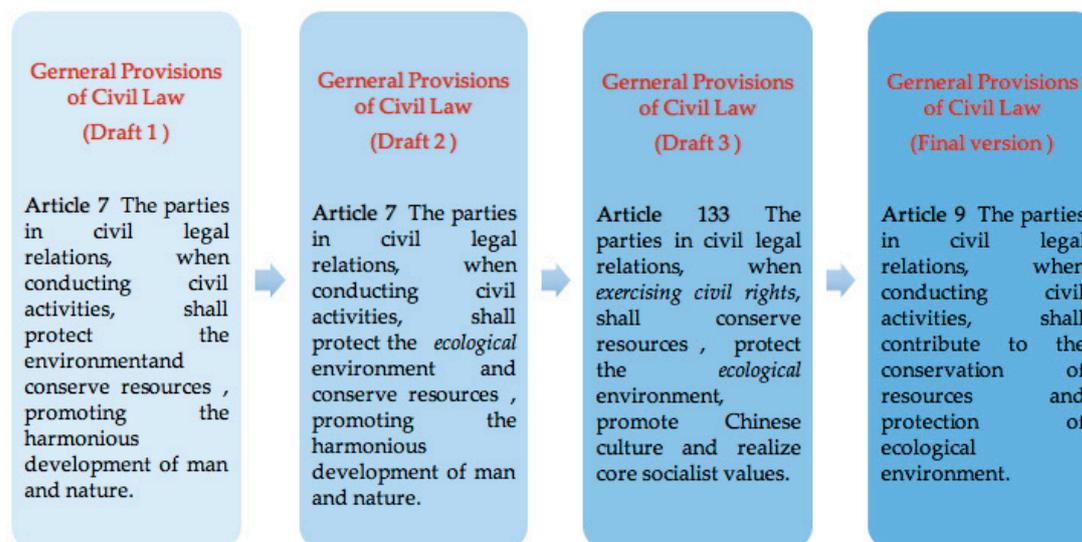


Figure 3. Establishment of the “Green Principle”. Source: Created by this research.

3. Rationales for the Greening of China’s Civil Law

Civil law’s response to environmental issues, with the adoption of the “Green Principle” as the starting point, facilitates the protection of public health and welfare from environmental harm, and is a valuable supplement to environmental law enforcement in China.

3.1. Protection of Public Health and Welfare

For the past few decades, China’s economic take-off has been accompanied by environmental challenges that pose a major threat to its sustainable development, as well as public health and welfare as well.

Although substantial efforts have been made to revise its environmental law, China still suffers from air and water pollution [36]. According to an air monitoring program in 2014, during four months, 92% of the population of China experienced more than 120 hours of unhealthy air (United States Environmental Protection Agency standard), and the observed air pollution was calculated to contribute to 1.6 million deaths each year in China, which is roughly 17% of all annual deaths in China [37]. In 2017, only 29% of the 338 cities at or above prefecture level in China met environmental air quality standards, and the national average concentration of PM 2.5 exceeded the standard by 23% [38]. Moreover, groundwater resources in more than 60% of large cities have been classified as “poor or very poor”, and more than one fourth of the major rivers in China have been deemed “unsafe for human contact” [39]. Apart from air and water pollution, the natural resources crisis and deterioration of the ecological environment have not been effectively curbed due to the relatively insufficient resources per capita in China, large regional differences, and the fragility of the ecological environment. About 1.05 million square miles of the Chinese landmass has undergone desertification,

affecting over 400 million people [40]. Increasingly severe environmental and natural resources problems seriously threaten Chinese people's health and welfare.

Chinese civil law regulates the ownership, utilization, and trading of environmental resources in China, which makes its response to environmental issues necessary. Several pre-existing rules of civil law have been designed to incentivize the efficient use of resources. For instance, China's property law contains a usufructuary right provision. According to this provision, a usufructuary right holder enjoys the right to possess, use, and seek proceeds from the real or movable property under the ownership of someone else. As a result, resources are made full use of by various actors in addition to the owner of the property [41]. Besides, the "user pays" principle for natural resources [41] may also reduce the waste of natural resources to some degree. However, these rules mainly focus on the economic rather than ecological value of natural resources. Similarly, although the environmental tort liability that is stipulated in China's tort law (a section of civil law) provides remedies for individuals damaged by environmental pollution, it does not cover damage resulting from ecological destruction, nor does it provide remedies for the natural environment. Therefore, a more effective response by civil law is needed in order to help address people's concern over the environmental problems and eliminate the threat to public health and welfare; as is called by some Chinese scholars, this is "to provide humanistic care" to people [42,43]. In essence, humanistic values of civil law require that civil law should not only center on property rules, but should also provide care for people. It should safeguard personal freedom and dignity, protect disadvantaged groups, and respond to people's concerns. The greening of civil law embodies exactly such values by contributing to the protection of public health and welfare.

3.2. Supplement to Environmental Law Enforcement

Law enforcement regimes can be grouped into the public or private category, where the public category involves administrative regulation, and the private category involves lawsuits [44]. As regards environmental protection system in China, public enforcement refers to the enforcement of environmental law, including environmental statutes and administrative rules, with enforcement agents monitoring compliance with specific rules. Private enforcement mainly refers to environmental tort litigation, which allows anyone harmed by environmental damage to sue for injunctive relief or monetary damages.

At present, the legal response to environmental problems in China mainly relies on the public enforcement of environmental laws, including a guiding Environmental Protection Law [45], around 30 separate laws related to the environment, hundreds of administrative rules, and more detailed standards [46]. However, although China's environmental law covers almost every aspect of environment management, it has a low legislative quality, too many principles, and is very basic and difficult to be enforced [47]. Besides, compared with civil law private enforcement, the public enforcement of environmental law has several disadvantages rendering it less effective under certain circumstances. On the one hand, the environmental law enforcement mechanism lacks motivation. "Public enforcement agents do not always have enough incentives, because unlike the lawyers of private plaintiffs, their paychecks and promotion are not closely connected with the interests of the potential victims" [44]. On the other hand, decentralization over the regulation of environmental affairs in China [48] gives the local government substantial power to resist the environmental policy enacted by the central government [49]. As a result, local protectionism may arise due to inter-jurisdictional rivalry for economic supremacy [48]. Thus, China's environmental laws and regulations, although plentiful and powerful, are unevenly enforced, and the violation of environmental laws is still widespread [50].

Therefore, civil law as a private legal mechanism has some important properties that make it superior to or at least necessary as a supplement to public enforcement. It is even contended that other laws rather than environmental law are more effective at solving China's environmental problems to some degree [51]. As Lv Zhongmei, a renowned environmental law and civil law scholar in China states, "it is gratifying to come up with the concept of the "Green Civil Code". It signifies the response

of China's civil law to environmental problems, and is a proper attitude that China should have when formulating a civil code in the new century in order to promote ecological civilization" [52].

4. The Greening of Civil Law from an International Perspective

The contemporary development of civil laws in different countries shows that civil law has evolved beyond the traditional right-dominant pattern in both legal theory and legislation. It no longer solely focuses on the protection of private rights, but also emphasizes obligations and social responsibilities, including the responsibility of environmental protection [53]. To date, civil legislation in many countries has made major breakthroughs regarding the protection of the ecological environment through civil codes. Those practices demonstrate the feasibility of applying civil law to resolve environmental challenges, and they set examples for China at the same time.

Article 90 (a) of German Civil Code provides special protection to animals by prescribing that animals are different from ordinary property, which is subject to exclusive domination by human beings; instead, they exist for their intrinsic value. Article 903 further added that "when exercising its rights, the owner of animals shall abide by the special provisions on animal protection" [54,55]. The 2016 Swiss Civil Code contains similar provisions. Article 293 of the Ukrainian Civil Code of 1996 stipulates that natural persons have the "right to a safe environment" [56]. The revised Dutch Civil Code, Russia Civil Code, and the Vietnam Civil Code also emphasized the protection of the ecological environment [29]. In November 2014, the Supreme Court of Justice in Argentina approved the amendments of its Civil Code, integrating the environment as a "legal good" and a collective right, and reinforcing the legal framework of the country. It empowers Argentine citizens to use the law to demand the implementation of measures to prevent degradation and restore the ecosystem [57]. In addition, the newly revised 2017 French Civil Code adopted a new chapter under the torts section stipulating reparations for ecological damage. Article 1246, *inter alia*, provides that "any person responsible for ecological prejudice is liable for the remediation thereof". As regards remedies, Article 1248 provides that the restoration of the ecological environment is prioritized, and in cases where restoration is impossible, monetary damages will be required instead. Besides, Article 1248 specifically prescribes environmental public interest litigation, which states that "the State, the French Biodiversity Agency, local authorities, their associations whose territories are impacted, their public institutions, as well as associations approved or created for more than five years before the commencement of the proceedings and whose purpose is the protection of nature and the preservation of the environment, shall have standing and interest to file actions on ecological prejudice compensation grounds" [58]. Apart from France, civil law is also an important mechanism for ecological and environmental protection in other European civil law countries, such as Italy, the Netherlands, and Portugal [59].

Advanced and powerful legislative support by the civil laws of those countries ultimately contributes to effective practice in ecological and environmental protection. According to a research on the practice of environmental non-governmental organizations (NGOs) in France, Italy, the Netherlands, and Portugal, traditional civil law remedies are the more frequently used mechanism (compared with the public regulatory approach) to take actions with respect to environmental damage [59]. In those countries, under the public environmental regulatory framework, the role of environmental NGOs is limited to a right to ask competent authorities to take action against liable operators, and such a role is further restricted by lack of available data on the condition of the affected environment, the confidential transactions between liable operators and competent authorities, as well as the limited coverage and high threshold of damage that is required. By contrast, with civil law mechanisms, they are entitled to bring actions directly against liable operators. Under civil liability claims, the type of damages that can be obtained include not only damages personally suffered, but also pure ecological damage, that is, damage to the environment in itself (except in Italy, where only the competent authority is entitled to use the civil action to claim for the reparation of the environmental damage). Besides, both material and moral damages can be awarded (except in the Netherlands, where moral damages are not allowed) [59].

Taking Portugal as an example, environmental NGOs can sue the operator directly through civil public interest litigation (civil actio popularis) to obtain the restoration of the environment, and if environmental NGOs have incurred costs, they can claim for additional compensation, including for the reparation of moral damage under Article 496 of the Civil Code [59]. Besides, French judicial practice also exemplifies the tendency to award environmental NGOs with damages for the reparation of the ecosystem in civil liability cases through such landmark cases as Erika, where an environmental NGO for the protection of birds was awarded monetary damages for every bird killed as a result of the oil spill by the Erika oil tanker [59–61].

In light of the above, civil law's response to environmental problems is not only feasible in legislation, but also constitutes a powerful tool to repair ecological and environmental damage in practical terms. Therefore, the successful practices in other civil countries provide justification in some sense for the greening of China's civil law, and set useful examples for the latter as well.

5. Progress and Further Efforts Needed for the Greening of China's Civil Law

The promulgation of the General Provisions of Civil Law is the first step for China's civil law codification, and the establishment of the "Green Principle" is only the first step for the greening of China's civil law. The General Provisions of Civil Law reflects the determination of China's civil law to deal with environmental problems, but it does not explicitly address the consequences for the violation of this new principle, and leaves the details to subsequent sections of the civil code. Therefore, with the "Green Principle" as the guidance, how to realize the greening of the following sections in the civil code is a challenge for China's civil law codification in the years to come. Of course, civil law's response to environmental problems does not require the greening of every part of the civil code, but rather only those closely related to environmental protection. As far as this research is concerned, rules on property, contracts, personality rights, and torts should be amended accordingly.

Following the enactment of the General Provisions of Civil Law in 2017, on 27 August 2018, the first drafts of the subsequent sections of China's civil code were submitted for review to the Standing Committee of the National People's Congress. In the drafts, several amendments regarding environmental and natural resources protection have been made in contracts and torts. Admittedly, this is a progress for the greening of civil law after the "Green Principle", but further amendments are needed in order to ensure that the requirements set forth in the "Green Principle" are specified, and the forthcoming civil code can serve an efficacious legal mechanism to cope with China's environmental and natural resources challenges.

5.1. Progress by the Draft Sections of Civil Code

On 27 August 2018, six draft sections of the civil code were submitted for preliminary review to the fifth plenary session of the 13th NPC Standing Committee. The six sections include provisions on property, contracts, personality rights, marriage & family, inheritance, and torts [62]. Remarkably, several provisions in the contracts and torts were amended or added under the guidance of the "Green Principle".

First, amendments were made in contracts concerning the performance of contracts, the termination of contractual rights and obligations, and sales contracts. The specific provisions are as follows:

Article 300: "The parties to a contract shall fully perform their obligations in accordance with the contract. They shall, in accordance with *the principle of good faith*, perform obligations such as notification, assistance, confidentiality, *resource conservation and pollution reduction* according to the nature, purpose, and transaction habits of the contract".

Article 348: "Upon termination of the rights and obligations of the contract, the parties shall, in accordance with *the principle of good faith*, perform obligations such as notification, assistance, confidentiality, and *recycling* in accordance with transaction habits".

Article 415: “In accordance with the provisions of laws, administrative regulations or the agreement between the parties concerned, *where the subject matter shall be recycled after its expiry date, the seller shall have the obligation to recycle the subject matter by itself or by entrusting another person to do so*” [63].

Those new rules are a step forward toward the greening of China’s civil law. It is the first time that Chinese contract rules have mandated resource conservation and environmental protection during or after the performance of the contract. In particular, the parties to the contract are legally obliged to recycle the subject matter after the termination of the contract, which can help reduce solid waste and the pollution that it causes. Those recycling provisions are especially important against the backdrop that China has not established a mandatory recycling system.

Apart from contract rules, the draft sections of torts made a great breakthrough in the expansion of environmental liability and the protection of the ecological environment. First, it broadened the causes of action for environmental tort liability. Unlike its predecessor Chapter 8 of the previous tort law, Chapter 7 of the draft titled “Liability for Ecological Damage” imposes liability for damage caused by both pollution and ecological destruction. Second, environmental public interest litigation was added. Articles 1010 and 1011 provide for the restoration of ecological environment and monetary damages, respectively, and both articles state that “legally mandated government organs and relevant organizations” (specified in Article 58 of the Environmental Law, Article 55 of the Civil Procedure Law, and Article 25 of the Administrative Procedure Law) have the right to bring such lawsuit. As a result, legal remedies are no longer limited to injured private actors, but also to the environment itself. Third, the draft stipulated punitive damages for the intentional violation of regulations and damaging ecological environment [64], aiming to bolster deterrence (See Figure 4).

In fact, prior judicial practice and local experimentations have paved the way for the above progress made in the drafting of torts section, such as the inclusion of environmental public interest litigation and the enhanced remedies for the ecological environment. Practice in environmental public interest litigation in China can be traced back to the early 2000s when environmental courts were established in such provinces as Jiangsu, Yunnan, and Guizhou to undertake experimental practices in environmental public interest litigation despite lacking legislative support. In 2012, Article 55 of the revised Civil Procedure Law conferred standing for environmental public interest litigation on “legally mandated administrative organs and relevant organizations”. Subsequently, Article 58 of the revised Environmental Protection Law in 2014 stipulated more specific and restrictive standing requirements for social organizations. In June 2017, the Civil Procedure Law and the Administrative Procedure Law of China were amended, which empowered people’s procuratorates nationwide to file environmental public interest litigation after the end of a two-year pilot project in 13 provinces. Therefore, before the drafting of the torts section of the civil code, environmental public interest litigation has already been established in China, and relevant cases are abundant. Available remedies in such litigation are also similar to those contained in the draft section, such as the restoration of the ecological environment and compensation for losses [65]. Besides, in 2015, a pilot project of an ecological and environmental damage compensation system was launched by the central committee of the CPC and the State Council, which authorized provincial governments in pilot areas to claim for ecological and environmental damage compensation from violators of environmental law. Then after two-year pilot work, Reform Plan on Ecological and Environmental Damage Compensation System was issued, which has become effective throughout the country since January 2018 [66]. These practices and local experimentations have exerted great influence on the drafting of the torts section of the civil code. Against such a backdrop, it is inevitable for the torts section to adopt rules concerning environmental public interest litigation and remedies for the ecological environment so that it can ensure the internal consistency of Chinese law and intensify the protection of ecological environment at the same time.

Tort law (2009) Chapter VIII Liability for Environmental Pollution	Draft Section of Torts (2018) Chapter VII Liability for ecological and environmental damage
Article 65 Where <i>any harm is caused by environmental pollution</i> , the polluter shall assume the tort liability.	Article 1004 Where <i>the ecological environment is damaged</i> , the tortfeasor shall assume the tort liability.
Article 66 Where any dispute arises over an <i>environmental pollution</i> , the polluter shall assume the burden to prove that it should not be liable or its liability could be mitigated under certain circumstances as provided for by law or to prove that there is no causation between its conduct and the harm.	Article 1005 Where any dispute arises over <i>ecological and environmental damage</i> , the polluter shall assume the burden to prove that it should not be liable or its liability could be mitigated under certain circumstances as provided for by law or to prove that there is no causation between its conduct and the harm.
Article 67 Where the <i>environmental pollution</i> is caused by two or more polluters, the seriousness of liability of each polluter shall be determined according to the type of pollutant, volume of emission and other factors.	Article 1006 Where <i>ecological and environmental damage</i> is caused by two or more tortfeasors, the seriousness of liability of each tortfeasor shall be determined according to the type of pollutant, volume of emission, the effect of the harmful act on the damage and other factors.
Article 68 Where any harm is caused by <i>environmental pollution</i> for the fault of a third party, the victim may require a compensation from either the polluter or the third party. After making compensation, the polluter shall be entitled to be reimbursed by the third party.	Article 1009 Where <i>ecological and environmental damage</i> is caused for the fault of a third party, the victim may require a compensation from either the tortfeasor or the third party. After making compensation, the tortfeasor shall be entitled to be reimbursed by the third party.
	<p>Article 1007 Compensation for personal injury or property losses. (Abbreviated)</p> <p>Article 1008 <i>Punitive damages</i> for intentional violation of laws and damaging ecological environment. (Abbreviated)</p> <p>Article 1010 <i>Restoration of the ecological environment or compensation for losses</i>. (Abbreviated)</p> <p>Article 1011 <i>Legally mandated organs or organizations may claim compensation for the following losses: Loss of service during ecological environment restoration...</i> (Abbreviated)</p>

Figure 4. Comparison of Environmental Liability Provisions in Previous Tort Law and the Draft Section of Torts. Source: Created by this research.

5.2. Suggestions on Further Efforts

Despite the progress described above, it is noticed that those efforts are not enough for the effective implementation of the “Green Principle” in the subsequent sections of the civil code. For instance, resource conservation and pollution reduction have not been taken into account in the rules regarding the validity or interpretation of contracts, which are among the most important in the field of contracts. Besides, there’re no specific rules on emission trading contracts, which are vital for the establishment of a sound emission trading market in China. Moreover, although environmental public interest litigation was included in the draft section of torts, there are no rules clarifying what kind of right is violated in an environmental public interest lawsuit. In addition, the draft section of property did not make any response to the “Green Principle”. Therefore, this research puts forward the following suggestions on the ongoing review and revisions of those drafts so that the subsequent sections of the civil code can fully implement the “Green Principle” and act as powerful legal support for China’s construction of ecological civilization.

5.2.1. Further Implementation of the “Green Principle” in Contract Rules

First, the contract rules should factor environmental and resources protection into the validity, performance, and interpretation of contracts.

The “Green Principle” was adopted by the General Provisions of Civil Law as a basic principle separate from other principles, such as the principle of equality, fairness, and good faith. However, although Article 300 of the draft stipulates the obligation of resource conservation and pollution reduction during the performance of the contract and the recycling obligation upon the termination of the contract, it states that such obligations are imposed “*in accordance with the principle of good faith*” instead of the “Green Principle”. Therefore, this research suggests that Article 300 should be revised as: “The parties to a contract shall fully perform their obligations in accordance with the contract. They shall, in accordance with the principle of good faith and the “*Green Principle*”, perform obligations such as notification, assistance, confidentiality, *resource conservation and pollution reduction* according to the nature, purpose, and transaction habits of the contract”.

As for the validity of contracts, Article 52 (4) of the contract law of China stipulates that a contract shall be null and void if it damages public interest, but it is not clear whether “public interest” here includes environmental public interest. Guided by the “Green Principle”, the contract rules should clarify that violating the “Green Principle” and damaging environmental public interest shall void a contract.

In addition, the Supreme People’s Court, through its judicial interpretation, established a “principle of changed circumstances”, which allows a party to request the court to modify or terminate the contract if there’s “any major change which is unforeseeable, is not a business risk, and is not caused by a force majeure that occurs after the formation of a contract, if the continuous performance of the contract is obviously unfair to the other party or cannot realize the purposes of the contract” [67]. Actually, after the formation of the contract, great changes may also take place in the natural environment, and it is reasonable to get them included as one of the circumstances where the contract can be modified or terminated. More specifically, the “principle of changed circumstances” should be revised as: “where there is any major change which is unforeseeable, is not a business risk, and is not caused by a force majeure that occurs after the formation of a contract, if the continuous performance of the contract is obviously unfair to the other party or cannot realize the purposes of the contract, *or will cause environmental and natural resources damage*, the parties may request the court to modify or terminate the contract. The people’s court shall decide whether to modify or terminate the contract under the principle of fairness, and in light of the circumstances of the case”.

Contract interpretation is a basic way to determine contractual rights and obligations when disputes arise between the parties over the understanding of any term of the contract. Article 125 of the contract law of China provides that the interpretation of contracts shall abide by the principle of good faith. Analogously, the “Green Principle” should also play a role in guiding contract interpretation. Therefore, Article 125 should be amended as: “If any disputes arise between the parties over the understanding of any clause of the contract, the true meaning thereof shall be determined according to the words and sentences used in the contract, the relevant provisions in the contract, the purpose of the contract, the transaction practices, the principle of good faith, and *the requirement to conserve resources and protect the environment*”.

Second, contract rules should respond specifically to emission trading contracts. Emission trading is an environmental policy tool that is achieved through government-issued permits that allow the emission of a specific quantity of pollutants over a specific period, and which can be bought from and sold to others [68]. It provides significant motivation for polluters to better control their emissions in order to sell emission credits to others. The emission trading system was put into practice in China as early as the 1980s, and it was first established in law through the newly revised Atmospheric Pollution Prevention and Control Law of China, which provides that “the State will gradually promote the emission trading system regarding major atmospheric pollutants” [69]. Before that, local governments and the State Council had made efforts toward the establishment of an emission trading system. For

instance, since 2012, the Chinese government has carried out pilot programs for carbon emission trading in seven provinces and sporadic cities. In 2014, the State Council released the Guiding Opinions on Further Advancing the Pilot Work for Paid Use of Emission Rights and Emission trading. Finally, on 18 December 2017, the National Reform and Development Commission published the Plan on Establishing a National Carbon Emission Trading Market [70], which marked the establishment of a national carbon emission trading market in China.

The emission trading system needs legal support, which makes rules on emission trading contracts indispensable. Emitters establish an emission trading relation through an emission trading contract [71,72]. An emission trading contract is subject to contract rules, but is also different from traditional contracts with its limited party autonomy and peculiarities in parties, subject matter, and performance of the contract. Specifically, limited party autonomy means that the emission trading contract cannot be established merely out of the will of the two parties, but environmental public interest will be taken into account, and the contract does not come into force until after it is approved by environmental administrative agencies. The parties to the contract are limited to those who have been granted emission permits, and emission credits are also different from the subject matter of traditional contracts. Besides, the performance of the contract is also subject to supervision by the government and the public. Such specialties call for specific regulation. Therefore, in order to make the emission trading system an effective environmental policy instrument, China's civil law codification should provide specific provisions on emission trading contracts.

5.2.2. Inclusion of Environmental Right in the "Personality Rights" Section

At present, a consensus has not been reached in Chinese legal academia as regards the definition and scope of environmental rights, but this research contends that they may be interpreted as "the right to use and enjoy a good environment free of pollution and ecological destruction". The establishment of environmental right in civil law not only matters for the internal consistency of Chinese law, but is also out of a real need to protect the ecological environment by granting citizens the standing for environmental public interest litigation.

First, the inclusion of environmental rights provides a legal basis for environmental public interest litigation by clarifying the specific right violated in such litigation. Tortious liability is imposed on those who have infringed the legal rights and interests of others. For environmental private interest litigation, the right infringed is the personal or property right protected under the General Provisions of Civil Law and subsequent sections of the civil code, such as rules on property and personality rights. However, for environmental public interest litigation, although it is added to the draft section of torts, and "legally mandated organs and relevant organizations" are authorized to bring such action, the draft failed to clarify the legal right that is violated. As far as this research is concerned, the right violated in environmental public interest litigation is the environmental right that all citizens enjoy. Therefore, the inclusion of environmental rights is necessary to render the inclusion of environmental public interest litigation logically sound in the civil code.

Some doubt may be cast on the feasibility of the establishment of environmental rights, because it impliedly recognizes that every citizen should have standing to sue for environmental damage. Admittedly, at present, only legally mandated administrative organs, procuratorates, and environmental organizations are legally qualified litigants, and individual citizens haven't been granted standing for environmental public interest litigation in China for fear of opening the floodgate to vexatious lawsuits [65]. However, as demonstrated earlier in another article by the authors, individuals' standing deserves further consideration, because public interest litigation brought by individual citizens plays an effective watchdog function in environmental governance and is practiced by other countries, such as the citizen suit in the United States. Besides, excessive lawsuits by individuals were disproved considering the complexities of environmental cases, the financial and proof burden for the plaintiff, as well as the traditional dispute resolution culture of Chinese society [65]. Alternatively, even if excessive lawsuits are likely, they can be largely reduced through

preventive mechanisms, such as the “loser pays” principle and a pretrial notification procedure, which has already been applied in China to administrative environmental public interest litigation brought by procuratorial organs [65]. Besides, it can also prevent the court from being flooded with minor cases by setting a limit on the exercise of environmental rights, such as the restriction in Article 1247 of the French Civil Code prescribing that only non-negligible ecological prejudice is actionable [58]. Therefore, granting individual citizens standing for environmental public interest litigation is practically useful, and concerns regarding a flood of lawsuits are overestimated to some degree. It doesn’t constitute a barrier for the recognition of environmental right in China’s civil law. Instead, Chinese civil law codification is a great opportunity, through establishing environmental rights, to make it legally viable for individual citizens to bring environmental public interest litigation.

Regarding how environmental rights can be established in the civil code, the research holds that it can be included in the “personality rights” section. Article 110 of the General Provisions of Civil Law, when clarifying “personality rights”, provides that “a natural person enjoys, *among others*, the right to life, inviolability, and integrity of body, health, name, image, reputation, honor, privacy, and marital autonomy”. “*Among others*” can be construed to include environmental rights [73]. At present, since “personality rights” has been recognized as a separate section in the civil code, it shall contain specific rules on environmental rights, thus providing a legal basis for environmental public interest litigation.

5.2.3. Stipulation of Unified Exercise of State Ownership in Property Rules

In China, the vast majority of natural resources are owned by the State. Article 9 of the Chinese Constitution provides: “All mineral resources, waters, forests, mountains, grasslands, unreclaimed land, beaches, and other natural resources are owned by the State, that is, by the whole people, with the exception of the forests, mountains, grasslands, unreclaimed land, and beaches that are owned by collectives in accordance with the law. The State ensures the rational use of natural resources and protects rare animals and plants. The appropriation or damaging of natural resources by any organization or individual by whatever means is prohibited”. According to the above provision, the State ownership of natural resources in China is the combination of a private right (with the State as the owner of natural resources) and public power (with the State exercising supervisory authority over the use of natural resources). The private right is further stipulated in Article 48 of the property law under which the State as the owner has the right to possess, use, dispose of, and benefit from natural resources, and to charge the users of natural resources according to the “user pays” principle. The public supervisory power is mainly based on administrative laws, such as the water law, forest law, grassland law, mineral resources law, etc., which stipulate that the State as the manager and supervisor collects a natural resources transaction tax and business tax and ensures the rational use of natural resources.

In practice, the administrative power is exercised by various levels of governments, but there is no independent department to exercise the ownership of natural resources on behalf of the State. Actually, natural resources are mostly controlled by local governments, who take it for granted that they are also exercising the State ownership of natural resources and have the right to use, dispose of, and benefit from natural resources. As a result, in pursuit of gross domestic product (GDP), growth, and economic benefits from natural resources, some local governments illegally approve the exploitation of natural resources, and excessive exploitation is commonplace [74,75]. To curb such phenomenon, it is necessary for property rules to stipulate the unified exercise of State ownership of national resources by an independent State-owned department, and grant it the right to sue for compensation in case of damage to national resources. Only by this means can the exercise of the State ownership of natural resources be separated from the supervisory authority by local governments so as to ensure the effective conservation of natural resources required by the “Green Principle”.

In fact, such a proposal has already received its policy support. In 2013, the Decision on Important Issues of Deepening the Reform by the Central Committee of the Communist Party of China was published. It takes as top priority the reform of the natural resources ownership system, proposing to improve the national natural resources management system, and exercise the unified ownership of natural resources [2]. In September 2015, the Overall Plan for the Reform of Ecological Civilization System was issued. It prescribes that in 2020, an ecological civilization system consisting of a natural resources ownership system and others will be established, as will a department for the unified exercise of natural resources ownership. Besides, it also requires the improvement of relevant laws and regulations on the ownership of natural resources so as to safeguard the reform of ecological civilization system [76]. In October 2017, during the 19th NPC, President Xi Jinping clearly pointed out again “to establish a State-owned natural resources asset management and ecology regulatory agency in order to improve the ecological environment management system and unify the exercise of ownership of all natural resources owned by the whole people” [4].

Therefore, during the Chinese civil law codification, the section of property rules should stipulate the unified exercise of state ownership. It will not only legalize the central government’s relevant policy initiative, but also protect natural resources from excessive exploitation and degeneration, thus providing strong legal support for the construction of an ecological civilization.

6. Conclusions

The ongoing civil law codification is a symbol of China’s relentless efforts to “rule by law” and modernize its legal system. The General Provisions of Civil Law lays down the overall framework for the Civil Code and sets guiding principles for all of the subsequent sections that are expected to be passed in 2020. One major breakthrough made by the General Provisions of Civil Law is the adoption of the new “Green Principle”, which requires the conservation of natural resources and the protection of the ecological environment during civil activities. It marks the first and critical step for the greening of China’s civil law, and has far-reaching implications for subsequent sections.

Civil law’s response to environmental and resources protection is not only geared to China’s national conditions and consistent with China’s pursuit for ecological civilization, it is also out of the need to protect public health and welfare. Moreover, it is an important supplement to environmental law enforcement in China, and is demonstrated by the successful practices in other civil law countries.

After the “Green Principle” was adopted, the major challenge consists in the corresponding amendments of the subsequent sections of the civil code under the guidance of the “Green Principle”. Although the drafts for the subsequent sections that have been submitted for review are still under revision at present, progress has been made in responding to environmental and natural resources protection in rules on contracts and torts. However, more efforts are needed in order to get the “Green Principle” fully implemented in the subsequent sections of the civil code. Therefore, this research puts forward several suggestions accordingly. To be specific, the “Green Principle” should be taken into account by contract rules concerning the validity, performance, and interpretation of contracts, as well as the principle of “changed circumstances”. Besides, specific regulations on emission trading contracts should be added. The “personality rights” section should stipulate environmental rights so as to clarify the right that is violated in environmental public interest litigation. The property section should prescribe the unified exercise of natural resources ownership in order to better protect natural resources.

In summary, the advancement of the rule of law is essential in order to protect the environment and achieve sustainable development. China’s civil law tries to play such a vital role during the process of Chinese civil law codification. It will make great contributions to sustainable development not only by establishing a “Green Principle” that requires environmental protection and resources conservation in all civil activities, but also through specific rules regulating personal and property relations, including a powerful liability mechanism on damage to the ecological environment. Several rules still need further improvement, though, as suggested by this research.

Author Contributions: T.Z. deals with writing and revisions, and Y.-C.C. is the funding supervisor.

Funding: The National Social Science Fundamental Project, China, ‘Research on China’s Participation in the Global Marine Ecological Environment Governance System’ (Grant No. 18VHQ015).

Conflicts of Interest: The authors declare no conflict of interest.

References

- Hu, J.T. Report of Hu Jintao to the 18th CPC National Congress (Part 8). Available online: http://www.china.org.cn/china/18th_cpc_congress/201211/16/content_27137540_8.htm (accessed on 11 December 2018).
- Central Committee of the Communist Party of China. The Decision on Important Issues of Deepening the Reform. Available online: <http://politics.people.com.cn/n/2013/1116/c1001-23560979-14.html> (accessed on 11 December 2018).
- Decision of the Central Committee of the Communist Party of China on Important Issues of Comprehensively Promoting Rule by Law. Available online: http://www.china.org.cn/china/third_plenary_session/2014-01/16/content_31212602.htm (accessed on 11 December 2018).
- China Daily, Full text of Xi Jinping’s Report at 19th CPC National Congress. Available online: http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm (accessed on 11 December 2018).
- Lubman, S. Looking for Law in China. *Columbia J. Asian Law* **2006**, *20*, 4–92.
- Paler, L. China’s Legislation Law and the Making of a More Orderly and Representative System. *China Q.* **2005**, *182*, 301–318. [CrossRef]
- Rosenberg, M. The Chinese Legal System Made Easy: A Survey of the Structure of Government, Creation of Legislation, and the Judicial System under the Constitution and Major Statutes of the People’s Republic of China. *Univ. Miami Int. Comp. Law Rev.* **2000**, *9*, 225–263.
- Peerenboom, R. Globalization, Path Dependency and the Limits of Law: Administrative Law Reform and Rule of Law in the People’s Republic of China. *Berkeley J. Int. Law* **2001**, *19*, 161–264.
- Tanner, M.S. The Erosion of Communist Party Control over Lawmaking in China. *China Q.* **1994**, *138*, 381–403. [CrossRef]
- O’Brien, K. Legislative Development and Chinese Political Change. *Stud. Comp. Communism* **1989**, *XXII*, 57–75. [CrossRef]
- Mei, X.Z. Environmental Problems and the Greening of Civil Law. *Chongqing Soc. Sci.* **2007**, *7*, 87–94. (In Chinese)
- General Provisions of the Civil Law of the People’s Republic of China. Available online: <http://en.pkulaw.cn/display.aspx?cgid=291593&lib=law> (accessed on 11 December 2018).
- Liu, J.W. Discussion on Several Issues of General Provisions of Civil Law (Draft). *Law Mod.* **2017**, *1*, 84–99. (In Chinese)
- Lv, Z.M. The Enactment of a “Green” Civil Code: A Prospect of Environmental and Resource Law in the 21st Century. *J. Zhengzhou Univ. (Philos. Soc. Sci. Ed.)* **2002**, *2*, 10–11. (In Chinese)
- Chen, S. *Commentary on the General Provisions of Civil Law of the Civil Code*; China Legal Publishing House: Beijing, China, 2017; pp. 68–69. (In Chinese)
- Dainow, J. The Civil Law and Common Law: Some Points of Comparison. *Am. J. Comp. Law* **1966–1967**, *15*, 419–435. [CrossRef]
- Wang, Y. China’s Civil Law Codification Should Handle Well the Three Groups of Relationships. *Chin. Cadre Trib.* **2015**, *7*, 68–70. (In Chinese)
- Schlesinger, R.B. *Comparative Law*; Foundation Press: New York, NY, USA, 1998.
- Standing Committee of the National People’s Congress of China. General Principles of Civil Law of the People’s Republic of China. Available online: <http://english.mofcom.gov.cn/aarticle/lawsdata/chineselaw/200211/20021100050859.html> (accessed on 11 December 2018).
- Wang, L.M. The Times Characteristics and Compilation Steps of China’s Civil Code. *Tsinghua Univ. Law J.* **2014**, *6*, 6–16. (In Chinese)
- Zhang, X.C. The New Round of Civil Law Codification in China. *Univ. Bologna Law Rev.* **2016**, *1*, 106–137.

22. Han, S.Y. Civil Law Codification in China: Its Characteristics, Social Functions and Future. In *Codification in East Asia: Selected Papers from the 2nd Thematic Conference*; Wang, W.Y., Ed.; Springer International Publishing: Cham, Switzerland, 2014; pp. 201–212.
23. Wang, L.P. Retrospect and Prospect of Civil Law Legislation in China. *J. Shandong Univ. (Philos. Soc. Sci. Ed.)* **2017**, *5*, 15–23. (In Chinese)
24. Xinjing News. The General Principles of Civil Law Will Temporarily Remain in Force After the Promulgation of the General Provisions of Civil Law. Available online: http://www.china.com.cn/lianghui/news/2017-03/08/content_40431153.htm (accessed on 11 December 2018).
25. Lv, Z.M. How to Green the Civil Code? *Law Sci.* **2003**, *9*, 103–106. (In Chinese)
26. Xue, J. Protection of the Person: Value Cornerstone of the Chinese Civil Code under Compilation. *Soc. Sci. China* **2006**, *4*, 117–128. (In Chinese)
27. Yin, T. Study on the Legislation of the Basic Principles and Object of Civil Law. *Jurists Rev.* **2016**, *5*, 10–19. (In Chinese)
28. Li, M.H.; Hou, J.R. Dialogue between Civil Law and environmental Law. *J. China Univ. Geosci. (Soc. Sci. Ed.)* **2005**, *5*, 9–15. (In Chinese)
29. Zhou, K. *Legal Issues on Environmental Protection in the Formulation of China's Civil Code*; Intellectual Property Rights Press: Beijing, China, 2011. (In Chinese)
30. Jin, T.H. The Response of Civil Law to Environmental Issues: The “Greening” of Civil Law. *Gansu Soc. Sci.* **2006**, *6*, 14–17. (In Chinese)
31. Fang, Y. On the Value and Approach of Greening the Basic Principle of Civil Law. *J. Guizhou Police Off. Vocat. Coll.* **2012**, *1*, 5–10. (In Chinese)
32. China Law Society. The Civil Code of the People’s Republic of China-Expert Proposals on the General Provisions of Civil Law. Available online: https://www.chinalaw.org.cn/Column/Column_View.aspx?ColumnID=81&InfoID=14364 (accessed on 11 December 2018).
33. Standing Committee of the National People’s Congress of China. The Third Draft of the General Provisions of Civil Law. Available online: <http://www.law-lib.com/fzdt/newshtml/20/20161229171628.htm> (accessed on 11 December 2018).
34. Pengpai News China. The Fourth Draft of the General Provisions of Civil Law: Re-Establishing Greening as A Basic Principle. Available online: http://www.thepaper.cn/newsDetail_forward_1635268 (accessed on 11 December 2018).
35. Zhang, S.H. Progress and Deficiency of the General Provisions of Civil Law (Third Draft). *Orient. Law* **2017**, *2*, 56–71. (In Chinese)
36. BBC News. China Smog Sparks Red Alerts in 10 Cities. Available online: <http://www.bbc.com/news/world-asia-china-35173709> (accessed on 11 December 2018).
37. Robert, A.; Rohde, R.A.; Muller, R.A. Air Pollution in China: Mapping of Concentrations and Sources. Available online: <http://berkeleyearth.org/wp-content/uploads/2015/08/China-Air-Quality-Paper-July-2015.pdf> (accessed on 11 December 2018).
38. Li, G.J. To Mobilize All Social Forces to Build a Beautiful China under the Guidance of Xi Jinping thought on Ecological Civilization. Available online: http://www.npc.gov.cn/npc/xinwen/2018-07/16/content_2058116.htm (accessed on 11 December 2018).
39. The Thinktank-Resources. The Water Crisis: A Major Challenge for China in the 21st Century. Available online: <http://www.thinktank-resources.com/en/events/morning-conference/water-crisismajor-challenge-china-21st-century> (accessed on 11 December 2018).
40. Khan, M.I.; Chang, Y.C. Environmental Challenges and Current Practices in China-A Thorough Analysis. *Sustainability* **2018**, *10*, 2574. [CrossRef]
41. National People’s Congress of China. Property Law of the People’s Republic of China. Available online: http://www.npc.gov.cn/englishnpc/Law/2009-02/20/content_1471118.htm (accessed on 8 January 2019).
42. Wang, L.M. The Humanistic Concerns of Civil Law. *Soc. Sci. China* **2011**, *4*, 149–165. (In Chinese)
43. Yang, L.X. From General Principles of Civil Law to General Provisions of Civil Law: A Historical Leap in Contemporary Chinese Civil Law. *Soc. Sci. China* **2018**, *2*, 85–91. (In Chinese)
44. Hylton, K.N. When Should We Prefer Tort Law to Environmental Regulation? *Washburn Law J.* **2002**, *41*, 515–534. [CrossRef]

45. Standing Committee of the National People's Congress of China. Environmental Protection Law of the People's Republic of China. Available online: <http://www.lawinfochina.com/display.aspx?id=18126&lib=law> (accessed on 8 January 2019).
46. Jin, Y.; Andersson, H.; Zhang, S. Air Pollution Control Policy in China: A Retrospective and Prospects. *Int. J. Environ. Res. Public Health* **2016**, *13*, 1219. [[CrossRef](#)] [[PubMed](#)]
47. Wang, J. Thirty Years' Rule of Environmental Law in China: Retrospect and Reassessment. *J. China Univ. Geosci. (Soc. Sci. Ed.)* **2009**, *9*, 3–9. (In Chinese)
48. Ferris, R.J.; Zhang, H.J. Reaching Out to the Rule of Law: China's Continuing Efforts to Develop an Effective Environmental Law Regime. *William Mary Bill Rights J.* **2003**, *11*, 569–602.
49. Carpenter-Gold, D. Castles Made of Sand: Public-Interest Litigation and China's New Environmental Protection Law. *Harv. Environ. Law Rev.* **2015**, *39*, 241–274.
50. Goldman, P. Public Interest Environmental Litigation in China: Lessons Learned from the U.S. Experience. *Vt. J. Environ. Law* **2007**, *8*, 251–280.
51. Sun, Y.H. *Beyond the Environmental Storm—A Study of the Legislation on the Protection of Environmental Resources in China*; China Legal Publishing House: Beijing, China, 2008. (In Chinese)
52. Lv, Z.M. The Green Civil Code: The Road to Addressing Environmental Problems. *Stud. Law Bus.* **2003**, *6*, 3–6. (In Chinese)
53. Guo, F. The Spirit and Characteristic of the General Provisions of Civil Law. *Law Econ.* **2017**, *3*, 5–16, 54. (In Chinese)
54. German Civil Code. Available online: http://www.gesetze-im-internet.de/englisch_bgb/ (accessed on 11 December 2018).
55. Cai, S.Q. Promoting the Communion of Environment and Resources Law with Civil Law: Based on the Comprehension of Article 90 (a) of German Civil Code. *J. Nanyang Norm. Univ. (Soc. Sci. Ed.)* **2006**, *5*, 1–15. (In Chinese)
56. Lv, Z.M. Research Group. The Implementation Outline of the "Green Principle" in Civil Code. *China Law Sci.* **2018**, *1*, 7–8. (In Chinese)
57. Zuleta, G.; Rovere, A.E.; Pérez, D.; Campanello, P.I.; Johnson, B.G.; Escartín, C.; Dalmasso, A.; Renison, D.; Ciano, N.; Aronson, J. Establishing the Ecological Restoration Network in Argentina: From Rio 1992 to SIACRE 2015. *Restor. Ecol.* **2015**, *23*, 95–103. [[CrossRef](#)]
58. Latham & Watkins LLP. The Notion of "Ecological Prejudice" Now in the French Civil Code. Available online: <https://www.latham.london/2017/01/the-notion-of-ecological-prejudice-now-in-the-french-civil-code/> (accessed on 11 December 2018).
59. Fasoli, E. The Possibilities for Nongovernmental Organizations Promoting Environmental Protection to Claim Damages in Relation to the Environment in France, Italy, the Netherlands and Portugal. *Rev. Eur. Comp. Int. Environ. Law* **2017**, *26*, 30–37. [[CrossRef](#)]
60. Robeyrol, V. Erika Case: An Incitement to Rewrite the CLC. *Eur. Energy Environ. Law Rev.* **2013**, *22*, 33–48.
61. Papadopoulou, D. The Role of French Environmental Associations in Civil Liability for Environmental Harm: Courtesy of Erika. *J. Environ. Law* **2009**, *21*, 87–112. [[CrossRef](#)]
62. The National People's Congress of the People's Republic of China. China Focus: China Moves on Phase II of Drafting Civil Code. Available online: http://www.npc.gov.cn/englishnpc/news/Legislation/2018-08/28/content_2059502.htm (accessed on 11 December 2018).
63. Draft Sections of Civil Code: Contracts. Available online: https://mp.weixin.qq.com/s?__biz=MzAxODM0MjQxNw==&mid=2660754373&idx=3&sn=30a9fd128d99be867227c7b0c382ecbb&chksm=80b4f4bbb7c37dadf3568281bad86eb6f601a0ce98d7a29d772fe3751e1f6332dd7aec4dac95&scene=21#wechat_redirect (accessed on 11 December 2018).
64. Draft Sections of Civil Code: Torts. Available online: https://mp.weixin.qq.com/s?__biz=MzAxODM0MjQxNw==&mid=2660754373&idx=7&sn=db7ded1ca943c0ad6f050fe13e553bb9&chksm=80b4f4bbb7c37dad2acfd8d26385fe1e1af258e4aee6986b3069a31d44506e9633a204cb0f54&scene=21#wechat_redirect (accessed on 11 December 2018).
65. Zhai, T.T.; Chang, Y.C. Standing of Environmental Public-Interest Litigants in China: Evolution, Obstacles and Solutions. *J. Environ. Law* **2018**, *30*, 369–397. [[CrossRef](#)]

66. The General Office of the Central Committee of the Communist Party and the General Office of the State Council. Reform Plan on Ecological and Environmental Damage Compensation System. Available online: http://www.pkulaw.cn/cluster_call_form.aspx (accessed on 8 January 2019).
67. The Supreme People's Court of China. Interpretation II of the Supreme People's Court on Several Issues concerning the Application of the Contract Law of the People's Republic of China. Art 26. Available online: <http://en.pkulaw.cn/display.aspx?cgid=20422d97d959f8eabdfb&lib=law> (accessed on 11 December 2018).
68. Doremus, H.; Lin, A.C.; Rosenberg, R.H. *Environmental Policy Law: Problems, Cases, and Readings*; Foundation Press Thomson/West: New York, NY, USA, 2012.
69. Standing Committee of the National People's Congress of China. Atmospheric Pollution Prevention and Control Law of China, Art 21. Available online: <http://en.pkulaw.cn/display.aspx?cgid=56d189e827f94116bdfb&lib=law> (accessed on 8 January 2019).
70. National Reform and Development Commission. Plan on Establishing a National Carbon Emission Trading Market (Power Generation Industry). Available online: <http://www.ndrc.gov.cn/gzdt/201712/W020171220577386656660.pdf> (accessed on 11 December 2018).
71. Cao, J.G. Emission Trading Contract and Its Regulation. *J. Chongqing Univ. (Soc. Sci. Ed.)* **2017**, *23*, 84–90. (In Chinese)
72. Shi, Y.C.; Wang, Q. Analysis about the Legal Relationship of Emission trading Contract from the Perspective of Civil Law. *Law Sci. Mag.* **2012**, *10*, 67–72. (In Chinese)
73. Wang, X.G. Civil Law Expression of Environmental Rights and Interests—Reflections on the Greening of Civil Code. *People Rule Law* **2016**, *3*, 25–27. (In Chinese)
74. Wang, K.W. On the Legal Design of State Ownership of Natural Resources. *J. Soochow Univ. (Law Ed.)* **2014**, *3*, 96. (In Chinese)
75. Du, Q.; Kang, J.T. Tentative Ideas on the Reform of Exercising State Ownership of Natural Resources: Preliminary Thoughts on Establishing a State-owned Natural Resources Supervision and Administration Commission. *Jiangxi Soc. Sci.* **2016**, *6*, 160. (In Chinese)
76. Central Committee of the Communist Party of China, State Council of China. Overall Plan for the Reform of Ecological Civilization System. Available online: http://www.gov.cn/guowuyuan/2015-09/21/content_2936327.htm (accessed on 11 December 2018).



© 2019 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).