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Pursuing climate justice through public interest litigation: Theories, practices, and prospects

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Abstract

Climate change represents a global crisis that transcends borders, affecting every nation and community as climate justice gains prominence and seeking remedies to address climate-related issues becomes crucial. Environmental Public Interest Litigation (EPIL) has emerged as a potent instrument to hold governments and corporations accountable for their contributions to climate change and its consequences. This article explores the theories that underpin climate justice, examines the practical applications of EPIL worldwide, and delves into the intriguing prospect of adopting the Chinese mode of EPIL in transnational climate disputes. As one of the world's largest economies and greenhouse gas emitters, China plays a pivotal role in the global fight against climate change. This article explores how climate justice can be pursued in China through the avenue of EPIL. It examines the underlying theories that support the concept of climate justice, delves into the practical applications of EPIL in the realm of climate change, analyzes China's climate legislation and relevant judgments, and discusses the enforcement challenges and prospects for advancing climate justice through EPIL in the Chinese context. The 21st century has witnessed an unparalleled awakening to humanity's environmental challenges, particularly the global climate change crisis. As the adverse impacts of climate change become increasingly evident, the urgency to address its consequences has led to the concept of climate justice. Climate justice acknowledges the disproportionate burden of climate change on marginalized communities and future generations, emphasizing the need for equitable and sustainable solutions. EPIL has emerged as a legal strategy to uphold climate justice, aiming to bring about systemic change by leveraging the power of the courts to protect the environment and human rights. The urgency of addressing climate change has made it a defining challenge of our era. Its implications extend beyond national borders, affecting ecosystems, economies, and vulnerable populations worldwide. Climate justice underscores the ethical responsibility to address climate change's disproportionate impacts on marginalized communities and future generations. An important and developing area of environmental law is the use of litigation to seek climate justice. There is an immediate and critical need for strong legal frameworks to tackle the growing threat of climate change and global warming to ecosystems and at-risk populations. A strong theoretical basis for comprehending and progressing climate litigation is provided by concepts like public nuisance, public trust, and human rights. Cases like Milieudefensie et al. [3] in Europe show how lawsuits are being used more and more to enforce climate pledges and rectify environmental damage, while environmental public interest litigation in China has made great strides in holding entities responsible for ecological damage. Establishing more thorough international frameworks and extending these legal procedures outside domestic contexts will be the task going forward. To overcome these restrictions and promote a more united global response to climate change, regional treaties and transnational climate litigation like the ones proposed for ASEAN could be crucial.

Keywords: Climate change, climate justice, environmental public interest litigation, legal standing, transnational climate litigation.

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1. Introduction

Global warming and climate change have long been international challenges, causing increasing concern about sustainable development and fair treatment of human beings within the international community. Low-income communities, individuals of color, Indigenous populations, persons with disabilities, the elderly, young children, and women are particularly vulnerable to the hazards associated with climate impacts such as extreme weather, flooding, drought, rising sea levels, water and food scarcity, and atypical diseases. How to curb the extension of climate change, mitigate the adverse impacts, impartially vindicate the interests of all human beings, and ensure access to justice is currently emerging in a notable consciousness called climate justice. Although different people may have different perspectives, nobody would set aside the significance of litigation to pursue the justice they were born to deserve.

In recent years, researchers have noted that the unsuccessful U.N. climate change conference in Copenhagen in 2009 (COP15) rekindled interest in climate litigation in certain nations, with numerous subsequent cases initiated by activists aiming to contest climate inaction through the judiciary. The years following the 2015 Paris Agreement have witnessed a rise in action in certain regions, encompassing both advocacy and novel categories of climate-related litigation in the judiciary. In 2015, China's revised Environmental Protection Law was enacted. While possessing the strictest law in history, this act creates an unprecedented suit named Environmental Civil Public Interest Litigation, allowing qualified N.G.O.s to file suits with the environmental tribunals against acts of environmental pollution or ecological damage, claiming compensation for the losses of natural resources and ecological values. Furthermore, the China Administrative Litigation Act was modified to add a special program named Environmental Administrative Public Interest Litigation, which authorizes the People's Procuratorates to sue the administrative agencies that fail to protect the environment and ecology. Both of these types of public litigation are jointly referred to as China EPILs. Since then, there has been a significant increase in EPIL; merely in 2022, 5,885 EPIL cases and 221 ecological damage compensation cases were heard at different levels of environmental tribunals, making outstanding contributions to climate justice.

In Europe, the case Urgenda v. Netherlands 2019 and the case Milieudefensie et al. [3] attracted the whole world's attention, raising a deep and universal debate on pursuing climate justice through climate litigation. The government and enterprises are liable for mitigating the side effects of climate change and compensating for damages incurred in line with the doctrine of duty of care.

Undoubtedly, both China and the Netherlands have made great achievements in pursuing climate justice. However, less is worthy of applause at this moment. We have to realize that the absolute proportion of climate cases is heard under domestic laws by domestic courts, and the binding force of these judgments is limited by their boundaries, lacking international effects. Some countries, like the U.S. and China, do not have a specific climate change law but have made great progress in climate justice, while some countries, like Brazil, have more than 20 climate change-related laws but have reaped only two cases in response to climate change. In addition, other than China EPILs, most of the cases brought in by U.S. and European courts are not essentially public interest suits but private ones taking the form of class actions. All in all, if we insist on utilizing public interest litigation as a typical way to achieve climate justice, we have to explore and enrich the basic theories of EPIL, including but not limited to the theory of human rights, the public trust, public nuisance, and the theory of torts. Furthermore, we need to review and redesign the current practices of EPIL to enhance the extraterritorial legal effects of climate judgments, to enlarge access to participate in climate decision-making and legislation without regard to race, gender, career, location, and color, and ultimately to enjoy a fruitful prospect of climate justice for all human beings.

Global warming and climate change pose profound challenges to sustainable development and equitable treatment across the international community. These issues disproportionately affect vulnerable populations, emphasizing the urgent need for climate justice a concept that ensures fair treatment and equitable protection from climate impacts for all people. Litigation has emerged as a critical tool in pursuing this justice, particularly following the renewed interest sparked by the 2009 COP15 failure and the increased activism and climate-related cases post-2015 Paris Agreement.

China's introduction of Environmental Civil Public Interest Litigation (EPIL) through its 2015 Environmental Protection Law and the subsequent amendment to the Administrative Litigation Act has set a precedent for addressing climate issues through public interest litigation. The surge in EPIL cases in China demonstrates the potential of legal frameworks to contribute significantly to climate justice. Similarly, landmark cases in Europe, such as Urgenda v.

Netherlands and Milieudefensie et al. [3] have highlighted the accountability of governments and corporations in mitigating the effects of climate change and compensating for damages.

Despite these advancements, the impact of climate litigation remains predominantly domestic, with limited international enforcement. This highlights the need for robust theoretical foundations and innovative practices in EPIL to extend the reach and effectiveness of climate judgments beyond national borders. Integrating theories of human rights, public trust, public nuisance, and torts can enhance the framework of EPIL, facilitating broader access to climate decision-making and legislation.

2. Theoretical Foundations for Achieving Climate Justice through Litigation

Theoretical foundations for pursuing climate justice through litigation are numerous. An individual's right to life and health includes the right to live in a safe and healthy environment, according to the human rights doctrine, which is basic. In instances such as Juliana v. United States, where plaintiffs contended that the government's inaction on climate change infringed their constitutional rights, this principle has been cited, as it is represented in international human rights law [1]. The public trust doctrine is another key idea that states governments have a responsibility to safeguard natural resources for the benefit of the public. This theory states that governments are trustees of these resources. The Supreme Court's confirmation of the EPA's power to regulate greenhouse gases under the Clean Air Act in the case of Massachusetts v. EPA is only one example of how this concept has played a significant role in climate litigation [2]. Climate litigation also makes use of the doctrine of public nuisance, which has long been applied to tackle systemic damage to communities. The Dutch court in the case [3] for example, ordered Shell to drastically cut its CO2 emissions because of the company's role in causing climate change [3]. The growing connection between law and environmental preservation is demonstrated by these theoretical underpinnings, which together lend credence to the idea of using litigation to achieve climate justice.

Globally, the cumulative number of climate change-related cases has grown very rapidly over the past eight years since 2015, the year of the Paris Agreement, reaching 2,341 in 2023, based on the Sabin Center's climate litigation databases. However, the development of climate-related litigation is not balanced among different countries and regions. More than two-thirds of the cases occur in developed countries such as the United States and Australia, while the number of cases in developing countries is relatively small but shows a rapid growth trend. Since the implementation of EPIL in 2015, China has seen a significant increase in public interest litigation cases aimed at preventing and controlling environmental pollution and ecological damage, making it the global leader in the number of such cases. According to the "Ecological Environment and Resource Protection Prosecution White Paper (2018-2022)" issued by the Supreme People's Procuratorate in June 2023, a total of 394,894 ecological environment and resource protection public interest litigation cases were filed, including 343,394 administrative public interest litigation cases, 51,500 civil public interest litigation cases, 333,823 conformity orders issued by procuratorates, and 24,202 lawsuits. In 2022, 5,885 EPIL cases were accepted and heard by different environmental tribunals, an increase of 11.73% from 2021[4]. However, the proportion of litigation cases related to climate change is relatively low. Approximately 30 public interest litigation cases on climate change and global warming can be found on the website of Judgements Disclosure. One of the most influential cases is the "Abandoning Wind and Solar Power" case filed by the Friends of Nature Environmental Research Institute against the State Grid Gansu Power Company. The case finally reached a settlement on April 17, 2023, with the defendant power company committing to invest at least 913 million yuan in the construction of new energy sources such as wind power and photovoltaic power generation, effectively ensuring the promotion of renewable energy and promoting the prevention and control of air pollution and reduction of greenhouse gas emissions [5].

In order to further enhance the role of courts in the field of climate change, promote green development, and facilitate harmonious coexistence between humans and nature, the China Supreme Court issued a judicial document titled "Opinions on Fully Implementing the New Development Concept and Providing Judicial Services for Actively and Prudently Advancing Carbon Peaking and Carbon Neutrality" on February 16, 2023. It explicitly outlines the types of climate change-related dispute cases, including greenhouse gas emission torts, prevention and control of atmospheric pollution, administrative compensation for climate change adaptation, coal and gas resource development, carbon emission quotas and verification, voluntary emission reduction trading and guarantee disputes, as well as greenhouse gas emission reporting disputes. Therefore, it is evident that public interest litigation cases in the field of climate change in China will steadily increase in the future.

Why has there been such a rapid development in climate change litigation since 2015, even achieving groundbreaking results in the field of climate change litigation in the absence of specific climate change legislation in the two superpowers, the United States and China? The main reason lies in the fact that after the Paris Agreement, the concept and demands of climate justice have not only remained in the academic research area but have profoundly affected everyone's subjective consciousness and objective behavior. Although there are more or less differences in understanding climate justice, this does not hinder the efforts of the public to address the imbalanced impacts of climate change on specific ethnic groups and populations. However, among all the methods and means to address climate change and achieve climate justice, climate litigation is the most effective, making it particularly important to study how to achieve climate justice through litigation. From a global perspective, three important theories provide theoretical support for bringing climate litigation to achieve climate justice.

2.1. Environmental Justice Theory

The rights of marginalized communities, which are frequently the most affected by environmental damages, are the primary focus of Environmental Justice Theory, which emphasizes the equitable distribution of environmental benefits and burdens. This theory has become more pertinent in the context of climate justice litigation, as it offers a comprehensive framework for advocating for vulnerable populations and confronting systemic inequalities. The USEPA's Office of Environmental Justice says that environmental justice means treating everyone equally and giving everyone a chance to have a real say in how environmental laws, rules, and policies are made, implemented, and enforced, no matter their race, color, national origin, or income.

Environmental justice refers to the fair allocation of environmental advantages and disadvantages that occur when addressing oppressive institutions. In the 1980s, Robert Bullard, Paul Mohai, Robin Saha, and Beverly Wright developed the idea. David Miller, a prominent author in the liberal tradition, recently examined the environmental consequences of justice theory [6]. This study explores the feasibility of incorporating environmental products into calculations of distributive justice alongside other essential goods. Miller categorizes environmental goods into three distinct groups. Certain environmental commodities can be readily and immediately associated with other basic products.

2.2. Public Trust Doctrine

The public trust doctrine originates from the legal principle of private trust, denoting a fiduciary relationship in which one party (trustor) confers upon another person (trustee) the authority to manage property or assets for the advantage of a third party (beneficiary). The public trust doctrine, derived from the legal principle of private trust, requires the government to serve as a trustee, overseeing public property and natural resources for the advantage of current and future generations. Consequently, public trust mandates the government to oversee and administer public assets, encompassing natural resources and the environment, for the advantage of both current and future generations. It can be seen that the present generation plays the role of trustor; the government acts as a trustee for the public good of beneficiaries, namely, future generations. In this regard, this doctrine is substantially related to another concept, intergenerational equity, which denotes the principle that each generation seeks to attain at least equivalent benefits as its predecessors, necessitating specific minimum requirements to guarantee the quality of life for its constituents. The fiduciary duty places a strong emphasis on sustainable development, ensuring that present activities take into account the long-term consequences of climate change. The doctrine's strong connection with intergenerational equity emphasizes the importance of every generation ensuring a high standard of living while also safeguarding environmental advantages for future generations.

This principle underlines the importance of sustainable development and calls for current actions to consider the long-term consequences of climate change, emphasizing the need to reduce greenhouse gas emissions and minimize harm to present and future generations. In case the government fails to perform its duties in environmental protection and mitigating the side effects of climate change, then the trustors shall enjoy the right to sue the trustee for its breach of liability. When the government neglects its responsibilities in safeguarding the environment, the doctrine grants authority to present and future generations to hold the government liable through legal recourse. When the trustor is reluctant to pursue the trustor's liability, the beneficiaries would enjoy the right to sue the trustee to perform their responsibilities and claim full compensation. Because the lawsuits brought by trustors or the beneficiaries are set to protect the public interest, not merely personal interests, they are essentially endowed with the nature of public interest litigation. Consequently, the public trust doctrine shall undoubtedly be the primary theory for public interest litigation. In Robinson Township v. Commonwealth of Pennsylvania, Chief Justice Castille adopted the public trust doctrine to illustrate the Second and Third Clauses of Section 27 in the Environmental Rights Amendments: "The provision creates the public trust doctrine about these natural resources (the corpus of the trust) and names the Commonwealth as trustee, with the people as the named beneficiaries. The Commonwealth, as trustee, is a fiduciary required to adhere to the trust's stipulations and the norms regulating fiduciary behavior" [7]. In this context, the theory played a crucial role in understanding and strengthening the government's fiduciary responsibility towards environmental rights.

2.3. Human Rights Theory

The problems caused by climate change are never individual issues but rather issues that concern the fundamental interests of the majority, especially those related to human survival and development. From this perspective, climate change has always been a human rights issue. The understanding of human rights is broad, but there is little difference in the understanding of basic human rights. The United Nations Universal Declaration of Human Rights and the International Covenant on Civil and Political Rights stipulate that fundamental human rights encompass the right to life, liberty, personal security, dignity, and development. In the last eight years, the application of human rights arguments in climate lawsuits has consistently increased. A total of 112 human rights cases have been found worldwide, including 29 claims filed in 2020 and an additional five cases up to May 2021 in the United States [8]. Approximately 70% of the recorded government framework lawsuits to date have incorporated constitutional or human rights issues. These cases generally involve debates on the adequacy of state climate action in safeguarding citizens' human rights, often referencing international or regional human rights treaties [9]. In the case of Daniel Billy et al. vs Australia, the United Nations Human Rights Committee rendered a decision on September 22, 2022, favoring the petitioners in accordance with Article 17 and Article 27 of the International Covenant on Civil and Political Rights (ICCPR). The Committee mandated that Australia must (1) furnish the islanders with appropriate compensation for the damages incurred; (2) initiate consultations with the islanders to perform

needs assessments; (3) persist in executing adaptation measures against climate change; and (4) avert similar violations in the future. Australia has 180 days to notify the Committee of the measures undertaken to execute the decision [10].

2.4. Environmental Rights Basis

Many people think that environmental rights should be considered a subset of human rights. However, we can examine the articles of the three human rights treaties—the European Convention on Human Rights, the International Covenant on Civil and Political Rights, and the Universal Declaration on Human Rights. It is not very clear that a clean environment or environmental protection is within the scope of human rights protection. This situation did not change until 2021. At its 48th session, the United Nations Human Rights Council passed a resolution affirming, among other things, the right to an environment free from pollution and other human rights violations [11]. However, the resolution did not clearly define the concept of environmental rights. Compared to the long-standing concept of human rights, the proposal and study of environmental rights came much later. There are significant differences in understanding environmental rights at both the academic and practical levels. The most typical one is whether environmental rights are rights that people have over the environment or rights that the environment itself possesses. The former mostly discusses it as a constitutional right, while the latter is more focused on the legitimacy of the rights holder. Lawsuits brought under the former are generally treated as unconstitutional cases. The plaintiff in Robinson Township v. Commonwealth of Pennsylvania invoked Section 27 of the Pennsylvania Constitution's Declaration of Rights, which reads as follows: "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment." This right was the basis for the plaintiff's lawsuit. All residents of Pennsylvania, including future generations, share equal ownership of the state's publicly owned natural resources. The Commonwealth, in its capacity as trustee, is obligated to preserve and protect these resources so that they can be enjoyed by all [7]. Lawsuits brought under the latter are entirely new types of public interest litigation. Famously, this strategy has resulted in the grant of legal personhood to the Whanganui River in Aotearoa, New Zealand [12]. Climate justice asserts that individuals and communities have the right to live in an environment free from the impacts of climate change and that these rights should be upheld and protected through legal and policy measures. Whatever the connotation of environmental rights is, it will not affect climate change mitigation and adaptation by means of litigation.

The acknowledgment of environmental rights as human rights represents a substantial advancement in the worldwide struggle for climate justice. Although there is ongoing discussion regarding the exact meaning and extent of these rights, their incorporation into legal frameworks is crucial. Whether perceived as rights possessed by individuals concerning the environment or as rights inherent to the environment itself, these rights play a crucial role in addressing climate change through legal action and policy-making. As the comprehension and application of environmental rights continue to develop, they will undeniably influence the future of climate justice endeavors on a global scale.

3. Underlying Issues in Global Climate Litigations

Although climate litigation aimed at achieving climate justice has grown significantly in recent years, certain troubling aspects will directly affect how climate litigation develops going forward and will, in part, hinder the realization of climate justice.

3.1. Confined by State Sovereignty

The concept of state sovereignty poses a substantial obstacle in the field of global climate litigation, greatly limiting the extent and impact of legal measures intended to tackle climate change. Most climate litigation cases filed worldwide are domestic litigation, based on their domestic constitutions, environmental laws, or specific climate laws, requiring governments or businesses to take appropriate measures to reduce greenhouse gas emissions, adopt risk prevention measures for climate change, and compensate for losses caused by climate change. Cross-border litigation based on international law or regional treaty provisions is very rare. Currently, the most representative cross-border climate litigation cases include Daniel Billy et al. vs. Australia, KlimaSeniorinnen v. Switzerland, and Careme v. France. The former case was ruled on in 2022, while the latter two are still under hearing. The main reason for the limited number of cross-border climate litigation cases is the constraint of state sovereignty. Therefore, how to effectively break through state sovereignty and achieve litigation protection for climate justice in a broader field is an important research topic in current international law. In this regard, enhancing the strength of international treaties and agreements by incorporating enforceable climate requirements, along with facilitating cross-border execution of climate-related judgments by promoting cooperation among national courts, creating or authorizing international tribunals with the specific responsibility of resolving climate-related issues, and also promoting the implementation of global legal norms for addressing climate change that go beyond national borders can be a very emerging field of research.

The concept of state sovereignty poses a major challenge to the successful implementation of global climate litigation since it limits the capacity to address climate-related damages that extend beyond national borders. Although progress has been achieved in addressing climate change through domestic legal processes in different nations, the worldwide scope of this issue necessitates a more cohesive and collaborative legal strategy. The limited number of cross-border lawsuits exemplifies both the possibilities and challenges associated with seeking international climate justice. In order to surmount these obstacles, there is an urgent requirement for inventive legal tactics and more robust global legal structures that can enable cross-border collaboration and accountability. It is essential to address the restrictions imposed by state sovereignty

in order to create efficient legal systems that can thoroughly address the global challenge of climate change. This will ensure that both states and enterprises are held accountable for their contributions to this urgent issue.

3.2. The Hierarchy of Human Rights Restrain to Justify Climate Claims

Unlike the private right of property, human rights are too universal and general to be differentiated from one another. Each individual enjoys completely the same rights to life, liberty, dignity, and physical security, and no boundaries have been found among them. In this regard, two issues are worthy of being noticed while enjoying their rights. One is no differentiated rights, which means no rights. The historical Tragedy of the Commons is a case in point. Air and the environment are public goods; everyone will enjoy the same content based on human rights. Professor Farer has reached the same conclusion: if everyone insists on a right to speak on the same street corner at the same time, equal enjoyment would mean no enjoyment [13]. The other issue is that different human rights will conflict with each other. Although there is no consensus on the hierarchy of human rights, conflicts between two or more single human rights do exist. The most prominent is the conflict between the right to life and the right to development. The United Nations Declaration on the Right to Development states that every person and every people has an inherent right to economic, social, cultural, and political development that allows for the full realization of all human rights and basic freedoms. This right includes the ability to take part in, make a positive contribution to, and benefit from such development. Each and every one of us is accountable for our own personal and collective growth. The onus for making domestic and global circumstances conducive to the right to growth mostly rests on states [14]. In the circumstance of climate change, some people claim that leading a better life with a valuable job and better development, temporary climate change and greenhouse effects are tolerable. However, the other group holds diametrically opposed views that the right to life enjoys the peak of human rights and that it cannot be undermined and replaced with any excuse.

The development of China is the best example. China's rapid development over the past thirty years has actually sacrificed a large amount of environmental benefits. In the choice between environmental protection and economic development, China has prioritized economic development. Only when the economy develops and the people become prosperous can we truly talk about human rights. After achieving years of rapid development, China began adjusting its policy direction in 2015, revising the priority from economic development to environmental protection. The revised "Environmental Protection Law" introduced environmental public interest litigation and a daily penalty program. Within a short period of eight years, the environmental quality level has greatly improved, greenhouse gas emissions have been significantly controlled, and targets have been set to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060. From this perspective, when a group files a climate lawsuit demanding the reduction or cessation of greenhouse gas emissions based on the right to life, another group argues that the court should not rule the defendant to bear climate responsibility based on the right to development, as it would affect their employment, income, and opportunities for better education and development. How should the court make a choice? In fact, China's experience has proven that protecting the environment on the basis of development and maintaining climate justice is more scientific and can achieve a win-win situation for environmental protection and economic development, as opposed to initially restricting development on the basis of environmental and climate justice.

The intrinsic universality and interconnectedness of human rights pose considerable issues in climate litigation, especially when reconciling the right to life with the right to development. The lack of a distinct order among human rights frequently results in conflicts, as seen by the contradiction between safeguarding the environment and promoting economic development. The case of China illustrates that by initially giving priority to economic development and subsequently shifting focus towards environmental conservation, substantial enhancements in environmental quality can be achieved while simultaneously sustaining economic success. This strategy, which maintains a balance between development and climate justice, emphasizes the importance of integrated methods that do not sacrifice one set of rights for another. Therefore, courts should take into account comprehensive solutions that foster sustainable growth while safeguarding fundamental human rights.

3.3. Lawsuits against the Government Surpass Lawsuits against Enterprises

According to Grantham's policy report, the vast majority of cases have been filed against governments, with firms, NGOs, and people being the usual defendants. The main reason for taking the government as the defendant is that the government has a fiduciary duty to the environment and climate under the doctrine of public trust, and the current generation, as the trustor or the representative of the beneficiaries, has the right to demand the government to perform their fiduciary duties of eliminating climate change. Because of this, climate litigation has evolved into a tool for bringing governments to their climate pledges or strengthening them. Of these actions, 93 have been filed against governments, while 16 have been filed against companies, which is a small but notable minority. A large number of the most consequential third-wave cases aim to make governments answer for how they haven't done their part to combat and adapt to climate change, which is a global obligation [8]. In contrast, lawsuits against enterprises are less common because there has been no consensus on whether enterprises should take the fiduciary duty as the government does in this climate and environmental protection situation. Although the case of Milieudefensie(Friends of the Earth Netherlands) v. Shell paves an unprecedented way for imposing a duty of care on enterprises, the Hague District Court's ruling remains controversial [3]. This case is still pending an appeal, and it is impossible to reach a conclusion. Greenpeace Southeast Asia filed another remarkable case, and numerous other organizations and individuals against the Carbon Majors companies in 2015; the Commission on Human Rights of the Philippines (CHR) accepted the petition on December 11, 2017, and reached their

final report on May 6, 2022, found that the Carbon Majors have the corporate responsibility to undertake human rights due diligence and provide remediation [15].

3.4. Can Plaintiffs Really Stand for the Public in Climate Litigation?

Almost all climate litigations are brought in the public interest, whether based on human rights, environmental rights, or the public trust doctrine. The litigation requests and judgments of climate litigation are not geared toward meeting the interests of a particular individual. Despite the fact that many cases require plaintiffs to prove their legal standing in terms of injury in fact, causation, and redressability, it is undeniable that the plaintiffs are not simply defending their individual rights through climate litigation but are seeking to uphold the interests of a larger population, which is the essence of climate justice. However, a question that must be considered is whether all climate litigation plaintiffs can substantially represent a public interest and whether all judgments of climate litigation satisfy the public interest. Currently, worldwide, apart from public interest litigation in China, the vast majority of climate litigation is in the form of class actions or citizen suits, with the United States being the representative. Based on the classification of suits, they are considered private interest litigation, as courts require plaintiffs to prove that they have suffered actual harm from the defendant's actions when examining their legal standing, and in many U.S. laws, plaintiffs must base their citizen suits on their own interests [16]. Suppose some groups have initiated litigation to protect their health and property interests from the adverse effects of greenhouse gas emissions caused by climate change, while other groups oppose this and seek to join the litigation, believing that the defendant's actions are legitimate and beneficial to increasing economic income and social welfare. The plaintiffs' litigation would harm the interests of other groups. In this case, the value of climate litigation needs to be carefully weighed and studied in the context of basic human rights. After analyzing the above, it can be seen that in the future, when courts are handling climate litigation, in addition to reviewing legal standing, they also need to focus on examining the public interest represented by the plaintiff and even conduct cost-benefit comparisons to determine whether the basic requirements of climate justice are met. In comparison, environmental public interest litigation in China presents a completely different approach to litigation, where the plaintiff does not need to prove to the court that the defendant's actions have caused actual harm. The plaintiff does not need to premise the litigation on the violation of its substantive rights. This issue will be specifically analyzed in the following content.

The Grantham policy study emphasizes that the majority of climate litigation claims are filed against governments, usually by corporations, NGOs, and individuals. The government's obligation to protect the environment under the public trust concept is the main driving force behind this trend, enabling present generations to demand government intervention in addressing climate change. As a result, litigation has emerged as a crucial method for implementing or strengthening national climate obligations, with the bulk of lawsuits (93) focusing on governments. Conversely, legal actions against businesses are less common because there is a lack of agreement on their obligations as trustees. Significant cases such as Milieudefensie v. Shell and Greenpeace Southeast Asia v. Carbon Majors showcase developing legal arguments on corporate responsibility. However, these cases are still contentious and awaiting further appeals. These advancements suggest a steady transition towards holding businesses responsible while governments still remain the main defendants in climate-related legal actions.

3.5. Should Plaintiffs Hold Interests in the Outcome of Climate Litigation?

In analyzing whether the plaintiff can represent the public interest, the core question from the perspective of the right to litigation is whether the plaintiff has a substantive interest in the lawsuit brought. Traditional litigation theory holds that litigation is the ultimate protective mechanism for rights, and anyone bringing a lawsuit must prove to the court what substantive rights have been harmed. This is precisely the main reason why many climate litigation cases have failed in trial. In the well-known case of Massachusetts v. EPA, the Court of Appeals for the District of Columbia Circuit and the United States Supreme Court reached a completely different conclusion on the legal standing. Having a specific and particularized injury—either current or imminent—that can be fairly traced to the defendant and that a favorable decision would likely remedy that injury is what a plaintiff needs to prove standing. The Court of Appeals failed to find a concrete injury resulting from EPA's regulation and decided to dismiss the petition, while the Supreme Court upheld MassachUSetts' argument that global sea levels rose between 10 and 20 centimetres over the 20th century as a result of global warming and have already begun to swallow MassachUSetts' coastal land, which fairly constitutes an injury in fact [2]. Generally speaking, traditional civil actions are always adjudicated with the principle of legal standing. Likewise, in KlimaSeniorinnen v. Switzerland, the petitioner did not demonstrate to the European Court of Human Rights (ECHR) the specific environmental human rights contained in the European Convention of Human Rights (ECHR) infringed upon by the respondent. In determining whether the plaintiff should have a substantial interest in the claim, future climate lawsuits should take appropriate breakthroughs and reforms based on environmental public interest litigation in China.

The need for plaintiffs to establish a substantial stake in climate lawsuits poses a significant obstacle, as conventional litigation theory requires evidence of direct injury to substantial legal entitlements. This concept has resulted in the rejection of numerous climate lawsuits, as seen in the contrasting decisions of the Court of Appeals and the Supreme Court in Massachusetts v. EPA. The Supreme Court's acknowledgment of increasing sea levels as tangible damage contrasts with the lower court's rejection, underscoring the difficulty of establishing legal standing. In the case of KlimaSeniorinnen v. Switzerland, the petitioner was unable to provide evidence of specific violations of environmental human rights, resulting in the case being dismissed.

These instances underscore the challenge that plaintiffs encounter when attempting to demonstrate direct harm in climate lawsuits. In order to tackle this issue, future legal actions could be improved by implementing reforms that draw inspiration from China's approach to environmental public interest litigation. This method permits more inclusive eligibility requirements and prioritizes collective environmental concerns. These revisions could make it easier to take legal action against climate change, allowing plaintiffs to represent the public interest without having to prove personal injury.

4. China EPIL's Achievements and Breakthrough in Climate Justice

4.1. Huge Achievements in Environmental Protection Since 2015

Since 2015, China has made significant achievements in environmental protection and energy conservation, which stand out among Global South countries. On January 1, 2015, China's Environmental Protection Law was officially put into effect, marking a first for environmental protection as a national policy. In addition to establishing the public's right to receive environmental information and participate in decision-making, it provided a precise definition of "environmental protection priority" as one of the first basic principles of environmental law. Additionally, it authorized non-governmental organizations (NGOs) to sue for environmental public interest if they have been protecting the environment for more than five years and do not have a criminal record. In the time after, environmental public interest lawsuits in China grew rapidly, which eventually led to better environmental conditions.

After 2015, China's legislative bodies reconstructed a comprehensive system of environmental laws, newly enacting 31 laws, over 100 national regulations, and 1000 provincial and regional rules and regulations. This includes laws on environmental protection, water pollution prevention, air pollution prevention, noise pollution prevention, and solid waste pollution prevention. New laws on soil pollution prevention, biosafety, and Yangtze River protection were also established, leading to an increasingly improved structure of environmental regulations. Additionally, China has vigorously promoted carbon trading, with a cumulative transaction volume of 230 million tons and a transaction value of 10.475 billion yuan by the end of 2022. Relevant departments have also issued the implementation plan for expediting the establishment of a unified and standardized carbon emission accounting system, as well as released the "National Adaptation to Climate Change Strategy 2035" and the "Guidelines for the Formulation of Provincial Climate Change Action Plans [17]."

In 2018, China implemented a large-scale institutional reform and adjustment. In terms of institutional reform in environmental resource management, the work of environmental protection and natural resource management was separated, and the State Council set up the Ministry of Ecology and Environment and the Ministry of Natural Resources separately, unifying the work of pollution prevention and control and climate change management under the Ministry of Ecology and Environment. Accordingly, environmental and resource management departments at the provincial level made corresponding adjustments. After the completion of the institutional reform, enforcement of environmental resources was strengthened, and various U.S. environmental resource violations were sternly dealt with.

As of December 2022, there were a total of 2426 specialized institutions for environmental resource adjudication in 31 provinces, autonomous regions, and municipalities directly under the central government. In 2022, the number of first-instance environmental resource cases accepted by courts nationwide was 273,177, slightly lower than the 277,743 cases in 2021. The courts accepted 5917 and 5885 environmental public interest litigation cases in 2021 and 2022, respectively [18]. With a total of 1.47 million first-instance environmental resource cases adjudicated from January 2018 to September 2023, there were a variety of types of cases, including 186,000 criminal, 983,000 civil, 278,000 administrative, and 23,000 environmental public interest litigation cases filed by various entities. Compared to the prior five years, there was a 76.7% increase in the number of first-instance environmental resource cases accepted between 2018 and 2022 [5]. With years of unremitting efforts, China's ecological environment quality has significantly improved. In terms of climate change, the concentration of PM 2.5 in key cities nationwide has decreased by 57%, and the average concentration of PM 2.5 in cities at the prefectural level and above has been below the first-stage transitional value of 35 micrograms/m3 determined by the World Health Organization for three consecutive years from 2020 to 2022, making China the country with the fastest improvement in global air quality [17].

The effectiveness of China's sweeping legal and institutional reforms since 2015 is evident in its achievements in environmental protection and climate justice. The Environmental Protection Law and subsequent legislative changes granted public and NGO involvement, resulting in notable enhancements in environmental quality. The implementation of dedicated adjudication bodies and the rigorous enforcement of environmental regulations further strengthened these achievements. China's approach exemplifies a paradigm of harmonizing environmental preservation with legislative and institutional structures, attaining an equilibrium between economic advancement and environmental sustainability. This experience provides vital insights for other countries seeking to improve their environmental governance and effectively tackle climate change.

4.2. Creative EPIL in Addressing Ecological Problems and Climate Change

China has been a prominent figure in tackling ecological and climate issues by employing a creative method called Environmental Public Interest Litigation (EPIL). China's EPIL framework differs from the typical citizen lawsuit models in the United States by prioritizing the public interest over the need for plaintiffs to prove personal harm. This unique approach has resulted in substantial legal and procedural progress in the field of environmental justice. The EPIL system in China is distinguished by its comprehensive criteria for plaintiffs, a distinctive implementation of legal standing, and a dual-track system of civil and administrative litigation. The distinguishing elements of China's EPIL not only set it apart from foreign approaches but also improve its effectiveness in addressing and mitigating environmental damage.

China's remarkable achievements in environmental protection over the past eight years are closely related to its environmental rule of law work. The effectiveness of environmental public interest litigation is particularly evident. At the source, China's environmental public interest litigation is developed based on the foundation of citizen litigation in the United States, but it is distinctly different from citizen litigation. The most prominent feature is that China's environmental public interest litigation is truly for the public interest, where the plaintiff does not have any material interest in the litigation request, and the plaintiff does not need to prove to the court that they have sufficient and reasonable claim rights based on their own interests being harmed. In contrast, citizen litigation in the United States is fundamentally still private interest litigation, albeit with certain public interest effects in its litigation results. Upon careful analysis, China's environmental public interest litigation has the following characteristics that distinguish it from citizen litigation:

4.2.1. Plaintiffs Mainly Consisting of NGOs and Procuratorates

The first legal act that sets forth the qualifications for the plaintiff in the public interest litigation on environmental matters is the revised "Civil Procedure Law" of 2012. According to Article 55, designated agencies and organizations are authorized to sue for environmental pollution and violations of the lawful rights and interests of many consumers. If no organization initiates a public interest lawsuit, the state's procuratorates are required to file the lawsuit. Due to the vague provisions regarding the plaintiff in this law, it did not trigger large-scale environmental public interest litigation after its promulgation. It was not until the new "Environmental Protection Law" took effect on January 1, 2015, that environmental public interest litigation was comprehensively implemented nationwide. Article 58 provides that with regard to actions that pollute the environment, damage the ecology, or harm the public interests of society, social organizations that meet the following conditions may bring a suit at the people's courts.

(1) Have registered with the civil affairs authority of the people's government at or above the city level, in accordance with the law.
(2) Have specially engaged in environmental protection public interest activities continuously for five years or more and do not have a record of law violation.

In addition to environmental public interest litigation, when revising the "Administrative Procedure Law" in 2017, China specifically added provisions for environmental administrative litigation, authorizing the procuratorate to propose procuratorial suggestions to the administrative organs that have violated their environmental supervision and management duties or failed to act in accordance with the law, which has resulted in the infringement of national interests or public interests. The procuratorate can urge them to fulfill their duties in accordance with the law and, in case of failure, initiate litigation against the administrative organs in the people's court. This means that only the procuratorate can initiate environmental administrative public interest litigation in China. The procuratorate has the broadest standing to bring environmental public interest litigation, as it can bring both environmental civil public interest litigation and environmental administrative public interest litigation. NGOs or administrative organs such as the Ecology and Environment Department that meet the requirements can only bring environmental civil public interest litigation. In recent years, the main plaintiffs in environmental public interest litigation in judicial practice have been mainly NGOs and procuratorates, which is a significant difference from citizen litigation in the United States.

4.2.2. Rights to Sue Separated from Substantive Interests in Terms of Standing

In addition to the scope of plaintiffs, China EPIL is also distinguished by its unique legal standing application. Usually, courts in the United States and Europe require the claimants to demonstrate their legal standing for environmental or climate claims. If they fail to show sufficient legal standing to the court, their claims will be definitely dismissedTo assert "such an individual interest in the final outcome of the dispute and to justify the exercise of the court's remedial powers," as the US standard goes, a plaintiff or claimant must prove standing [1]. It is composed of three elements:(1) injury in fact, (2) causation between the injury and the challenged conduct, and (3) redressability. In the case of Harvard Climate Justice Coalition v. President & Fellows of Harvard College, the Massachusetts Appellate Court upheld the dismissal of the divestment action against Harvard, agreeing with the Superior Court that the students lacked the necessary standing to contest the administration of charitable funds. Claiming that "burning of fossil fuels results in the emission of greenhouse gases that become trapped in the atmosphere... [and] accumulate... [resulting in] climate change, [which causes] physical changes to the Earth's ecosystems" and "deleterious geopolitical, economic, and social consequences," the plaintiffs go on to say that university education is negatively affected, among other things. After careful deliberation, the court ruled that the plaintiff's claims of personal damage lacked sufficient specific detail, were overly conclusory, and relied on speculation too much to warrant standing [19]. In Europe, both domestic courts and the European Court of Human Rights identically invoke a standing test to decide whether the case is dismissible. They generally interpret legal standing as personal interests in the outcome of the dispute resolution. Plaintiffs usually are required to demonstrate "victim status" to the court. The Netherlands Supreme Court agreed with Urgenda's standing arguments in Urgenda v. Netherlands because, according to the court, Urgenda would have to cope with the negative consequences of climate change during their lifetimes unless greenhouse gas emissions were significantly decreased [20].

In contrast, China EPIL completely creates another type of legal standing for environmental protection and ecological preservation claims. Neither Article 55 of the Civil Procedure Law nor Article 58 of the Environmental Protection Law explicitly or implicitly requires plaintiffs to prove to the court that the defendants' challenged conduct has infringed upon their own interests. Moreover, plaintiffs shall not yield any benefits from the outcomes of the judgment except for the indispensable costs incurred from the litigation, such as attorney fees, investigation costs, and travel expenses. This attempt

is completely fresh compared with the primary procedural theories and practices around the world, so that it may enlarge the opportunities for the public to participate in the protection of the environment and ecosystem, greatly reduce the difficulties of commencing an EPIL, and ultimately have a profound precautionary impact on the activities of enterprises and governmental agencies.

4.2.3. Civil EPIL Running in Line with Administrative EPIL

In China, EPIL cases are divided into two types: civil EPIL and administrative EPIL. The former is set to challenge the environmental infringements conducted by enterprises or natural persons, while the latter is to challenge governmental agencies or the government itself for illegal agency actions or intentional omissions in certain public fields. Besides that, there are other special civil cases initiated and conducted in the process of environmental criminal actions, and both civil and criminal procedures are combined and heard by one tribunal to save time and increase efficiency. In the US, administrative suits are not distinguished from but incorporated into civil suits. Citizen suits are civil in the US but undoubtedly administrative per Chinese procedural classification criteria. Regarding climate litigations in the US, the vast majority are brought against the federal or state government or agencies thereunder, claiming to have diligently performed their duties in conformity with laws and regulations or to have imposed penalties on their violations. As for China EPILs, on the contrary, civil cases enjoy a significant majority over administrative cases. Based on the statistics conducted by the China Supreme Procuratorate, there are 2,236 administrative cases and 24,202 civil cases, including civil remedies arising from and attached to environmental criminal actions from 2018 to 2022, which occupied almost 10 times the number of administrative cases [21].

4.2.4. Civil EPIL Committed to Ecological Restoration and Compensation for the Loss of Ecological Services Value

Furthermore, it should be added that China EPIL merely adjudicates environmental tort cases, including climate tort cases. The most prominent civil claim under China EPIL is compensation for the cost of ecological restoration and the loss of the value of ecological services. In Taizhou Environmental Protection Federation v. Jiangsu Changlong Chemical et al., Taizhou Intermediate People's Court held six chemical companies accountable for the restoration of the Taiyuan River and compensated RMB 160,666,745.11 yuan for the ecological loss [22]. In a climate change case, the plaintiff, China Biodiversity Conservation and Green Development Foundation, filed a civil EPIL against Taisheng Quarry, a mining plant, challenging the action of extracting stones from destroyed mangrove forests inside and outside the quarry, claiming compensation for ecological restoration and the loss of ecological services value. During the trial, Beihai Intermediate Court in Guangxi Province found that Taisheng Quarry emitted CO2 into the atmosphere, causing and resulting in climate damage to the mangrove trees in and near the quarry and simultaneously destroying the ecological service value. Finally, the court reached a judgment in August 2021, with reference to the appraisal report made by a certified environmental forensic expert, that the defendant shall restore the ecosystem in and around the quarry under the supervision of the local Natural Resources Bureau or bear the cost of ecological restoration amounting to 2,186,400 yuan in case of failure to restore, and compensate 4,053,200 yuan for the loss of ecological service value [23].

The EPIL framework developed by China has emerged as an innovative and influential approach in the field of environmental and climatic justice. China has broadened access to litigation and empowered a wider range of institutions, such as NGOs and procuratorates, to take legal action against environmental degradation by prioritizing the public interest and eliminating the need for plaintiffs to demonstrate personal loss. China's dedication to strong environmental preservation is underscored by the separation of civil and administrative EPIL (Environmental Public Interest Litigation) cases and the focus on compensating ecological restoration expenses. China's EPIL, as it continues to develop, provides important insights for other nations aiming to improve their environmental justice systems and tackle the pressing issues of ecological degradation and climate change.

4.3. Chinese Application of EPIL in Climate Change

It is undoubted that GHG emissions and climate change mitigation or adaptation fall within the broad concept of environmental protection and ecological conservation; as a primary means of achieving environmental justice, EPIL can certainly be applied to climate change and to realize what is so-called climate justice. However, the number of climate EPIL cases in China is small compared with other types of EPIL cases. A database search using the terms "public interest case" and "greenhouse gas" turned up only seven cases with a Supreme Court classification. 5 of 7 are administrative cases initiated by different procuratorates, ordering local Ecological and Environmental Protection Agencies to take affirmative actions to reduce the emission of greenhouse gases, such as VOCs and HFCs, in each challenged industry [23]. Of course, this search is not complete. No results for the other two cases that China Friends of Nature brought in 2016 against two state-owned utilities in Gansu and Ningxia provinces appear in the search. The non-governmental organization claimed that the firms should be held accountable for the environmental harm caused by the needless continuous dependence on coal power and that the failure to connect all renewable power in the province to the grid violated the law on renewable energy. In April 2023, the case against Gansu was resolved. As part of the settlement, the Gansu state enterprise committed to investing 913 million RMB in energy-supporting system construction and grid transmission capacity improvements for power provided by new sources [9].

Although China currently has limited cases of climate change by virtue of EPIL, the prospect of future development is worthy of expectation. A growing body of Chinese case law indicates that the country's courts are considering a novel approach to climate change litigation, in which they could advise businesses on how to adapt to the changing climate. As a

result of the China Supreme Court's Opinions on Fully, Precisely, and Comprehensively Implementing the New Development Concept and Providing Judicial Services for Actively and Steadily Promoting Carbon Peak and Carbon Neutrality, which was issued on February 16, 2023, the court's judicial protection work now explicitly includes carbon peak and carbon neutrality, and future climate litigation in China is likely to develop swiftly.

The utilization of Environmental Public Interest Litigation (EPIL) for addressing climate change in China, although now restricted in quantity, has the potential to promote climate justice. Although greenhouse gas emissions and climate change mitigation are undoubtedly part of environmental protection, the precise use of EPIL in this context is still not well-developed. The scarcity of climate EPIL cases, namely those pertaining to local procuratorates and utility firms, underscores the early development of this judicial tool in tackling climate-related matters.

Nevertheless, the prospects for climate EPIL in China are really promising. The recent agreement reached between the Gansu state firm and the Supreme Court's 2023 rulings on carbon peak and neutrality demonstrates an increasing dedication of the judiciary to issues related to climate change. With the ongoing development of China's legal framework, it is expected that the use of EPIL (Environmental Public Interest Litigation) for addressing climate change will grow. This will have a progressively significant impact on how businesses respond to climate concerns and ensure greater environmental responsibility. China's creative approach to integrating legal methods with environmental and climatic aims is highlighted by this developing trend. This trend is expected to lead to stronger climate litigation and environmental justice in the future.

5. The Merits and Prospects of Adopting China EPIL to Improve Climate Litigation Mechanism in the Global South

As analyzed above, global climate litigation has made great progress since 2015, in which the Global North plays an extremely important role. However, it cannot be ignored that the current climate litigation mechanism and its procedural requirements, to a certain extent, limit the development of climate litigation. Scholars and legal practitioners are often frustrated by issues such as the limited qualifications of plaintiffs, restrictive interpretations of legal standing, ambiguity in human rights, and absolute sovereignty under international law. The Chinese mode of EPIL, however, may enjoy the merits of easing the extent of such frustration through its unique procedural designs. Taken for granted, the adoption of the Chinese mode of EPIL may, nevertheless, become an effective way to refine, or at least add something new to, the climate litigation mechanism. Consequently, the prospects will be as follows:

5.1. Maximizing the Instrumental Value of Plaintiffs in Future Climate Litigation

Usually, when the court is considering whether the plaintiff enjoys sufficient litigation rights, a plaintiff who argues that it is not necessary for them to prove to the court that they have a substantive interest in the subject matter of the litigation at issue in the case, on the ground that the right of action they enjoy is merely procedural in nature, is more than likely to be regarded as a crazy move, or even as a manifestation of ignorance. Litigation, generally, is to be treated as the last resort to protect rights and interests. With the dominance of traditional litigation theories, it is difficult to conceive of a plaintiff's right of action that is not premised on the fact that their substantive interests have suffered prejudice. In Global North countries, there have been numerous cases in which claims have been dismissed because the plaintiffs could not prove actual injury to their interests. Therefore, the future development of climate change litigation requires a breakthrough and update of the traditional litigation theory. There is no doubt that environmental public interest litigation (EPIL) in China has already made impressive achievements in this regard. In EPIL, the plaintiff's qualification for litigation and the exercise of their right of action is not premised on their own substantive rights and interests, and the plaintiff only has the instrumental value of the action in public interest litigation but not the value of the purpose of the action [24]. In other words, the plaintiff in EPIL only has the value of initiating the litigation process, as the outcome of the litigation is entirely attributable to the public and has nothing to do with the individual plaintiff. It is conceivable that the prospect of climate litigation will broaden on the ground that the qualification of plaintiffs in climate litigation in the future could be extended to any citizen or entity, and the purposes of litigation do not contain plaintiffs' personal rights and interests.

The implementation of China's Environmental Public Interest Litigation (EPIL) framework offers a compelling chance for countries in the Global South to strengthen their climate litigation processes. China's EPIL framework bypasses the usual requirement for plaintiffs to show a significant personal interest in the subject of the lawsuit by highlighting the practical benefit they bring to the case. This novel method greatly enhances the possibilities for public involvement in climate lawsuits.

In various nations in the Global North, climate litigation has frequently been hindered by the requirement for plaintiffs to demonstrate tangible harm to their individual interests, leading to the rejection of countless lawsuits. The conventional litigation perspective, which regards litigation as a final option for safeguarding individual rights and interests, constrains the capacity to tackle extensive environmental damages. The future of climate change litigation necessitates a fundamental change in perspective that acknowledges the procedural aspect of plaintiffs' rights in matters concerning public interest, as demonstrated by China's Environmental Public Interest Litigation (EPIL). The EPIL model in China illustrates that plaintiffs involved in public interest litigation do not need to have their substantive rights and interests directly affected. Instead, their purpose is to commence legal proceedings for the betterment of the general public, with the result of the action being a public benefit rather than an individual's personal advantage. This approach has already demonstrated remarkable accomplishments in China and provides a detailed plan for other countries.

The Global South can overcome traditional hurdles to litigation and maximize the instrumental value of plaintiffs by adopting and modifying China's EPIL framework. Allowing any individual or organization to become a plaintiff in a climate lawsuit would democratize the legal process and expand the range of environmental protection. In light of the ongoing and substantial global difficulties posed by climate change, it is imperative to implement creative legal systems in order to attain climate justice and sustainable development. The Global South may improve its legislative frameworks to effectively tackle environmental and climatic concerns and ensure a resilient and fair future by studying and adopting the successful strategies employed by China's EPIL.

5.2. Properly Relax the Requirements on Legal Standing in Future Climate Litigations

If future climate litigation no longer requires that the plaintiff must have an interest in his or her claim, what also needs to change is the basic requirement of legal standing in traditional litigation. The basic premise of the plaintiff's action is not that the plaintiff has suffered damage but that the defendant's legal obligations have not been effectively fulfilled. That is to say, the three elements of legal standing need to be, accordingly, adjusted to (1) injury in climate, i.e., the act being sued has caused or may cause climate change. In contrast to the traditional interpretation of "injury in fact," this injury no longer emphasizes the reality of the damage but also includes the scientific basis of the expected damages; (2) causation, that is, the act complained of, and climate change between the causal relationship, or injury in climate is fairly traceable to the challenged. The climate is fairly traceable to the defendant's challenged action; (3) redressability refers to the injury as "likely to be redressed by the requested relief [25]."

Because a plaintiff is not required to prove to the court that his or her own rights and interests have been harmed, the plaintiff's burden of proof in proving climate change damages need only focus on whether the defendant has an obligation to reduce greenhouse gas emissions or take the necessary steps to combat climate change. This obligation will vary depending on the types of defendants. When the government is brought into climate litigation, the obligation to mitigate climate change can be interpreted with the doctrine of "public trust" or the "human rights theory" analyzed earlier in this paper. When enterprises are sued for climate obligations, the duty to protect the environment and prevent climate change, or the duty of care explored in some cases, could be demonstrated to the court. In López Ostra v. Spain, the European Court of Human Rights (ECtHR) has found that Art. 8 ECHR imposes a duty to protect environmental matters. Also, in Öneryildiz v. Turkey and Özel and others v. Turkey, the ECHR has also found a positive obligation to take preventive measures against environmental disasters resulting from Art. 2 of the ECHR. As for cases against enterprises, the Hague District Court in the Netherlands found Royal Dutch Shell PLC (RDS) to owe Dutch residents a duty of care to reduce its CO2 emissions, granted a claim brought by a group of Dutch NGOs, and ordered RDS to reduce its group-wide CO2 emissions by 45% (net) compared to 2019 levels, by the end of 2030. [3] [1]

Additionally, redressability should be understood differently in future climate litigation. Instead of determining whether a claim is redressable based on whether the plaintiff's rights and interests can be protected, courts should look at whether it is effective in mitigating the impacts of climate change. When a court determines whether a lawsuit request is redressable, it should not use the standard of whether the plaintiff's rights can be protected as the basis for judgment but should instead prove from the perspective of effective mitigation of climate change and reduction of climate change-related harm. Many cases have been dismissed because plaintiffs failed to request a form of relief within the court's power to award that would redress their injuries. However, if the legal standing for the scrutiny of redressability is separated from the plaintiff's interests, it can greatly increase the court's support for climate change litigation requests.

It is essential to loosen the criteria for legal standing in future climate litigation in order to effectively combat climate change through the legal system. Conventional legal proceedings necessitate plaintiffs to establish a personal stake or harm, which has frequently impeded climate-related cases since the damage is extensive and not limited to individual plaintiffs. By implementing a more adaptable strategy, as recommended, the attention is redirected from individual harm to the defendants' inability to meet their legal responsibilities in relation to mitigating climate change.

To better match future climate litigation with the distinct characteristics of environmental and climate challenges, legal standing can be redefined. The suggested modifications encompass.

Injury in Climate: Acknowledging the causal relationship between the defendant's actions and climate change, highlighting the scientific evidence supporting anticipated harm and the possibility for damage.

Causation: Demonstrating that the alleged act may be directly attributed to climate change, with a specific emphasis on the link between the defendant's behavior and the resulting environmental consequences.

Redressability refers to the assessment of whether the relief being sought is likely to effectively address and alleviate the issue of climate change, as well as the associated harm, rather than just prioritizing the protection of the plaintiff's own interests.

This method reduces the amount of evidence that the plaintiff has to provide, as they simply need to show that the defendant has a responsibility to deal with climate change. The obligation in question differs depending on the type of defendant. In the case of governments, it may be derived from the principles of public trust or human rights theory. On the other hand, for enterprises, it may be based on their responsibilities towards environmental protection and the duty of care.

Furthermore, the concept of redressability in climate litigation should be interpreted in relation to its efficacy in reducing the impact of climate change. Courts should assess whether the requested remedy can effectively mitigate climate

[1] See Vereniging Milieudefensie et al. v. Royal Dutch Shell PLC, Hague District Court, Decision of May 26, 2021https://www.shearman.com/perspectives/2021/06/milieudefensie-v-shell--landmark-court-decision-for-energy-companies.

impacts rather than focus on whether it solely safeguards the plaintiff's own rights. This move can result in increased judicial support for climate litigation, overcoming previous dismissals stemming from the court's lack of authority to provide remedies. Instances from global legal proceedings, such as those adjudicated by the European Court of Human Rights and the Hague District Court, illustrate the practicality and influence of this method. By implementing comparable criteria, forthcoming climate litigation can enhance its ability to hold governments and corporations responsible, thereby stimulating substantial efforts to address climate change.

Ultimately, it is crucial to loosen the stringent legal criteria in climate lawsuits in order to promote the progress of climate justice. Courts can have a crucial impact on tackling the pressing concerns of climate change by prioritizing the broader public interest and evaluating the effectiveness of mitigation measures. This shift in paradigm will allow for more thorough and influential legal interventions, promoting a resilient and sustainable future.

5.3. Strengthening Climate Litigation for the Acknowledgment and Remediation of Ecological Values

Climate litigation frequently encompasses theoretical and ethical assertions, such as advocating for governments to enact measures to alleviate climate change or compelling firms to comply with environmentally friendly production and energy preservation criteria. Nevertheless, these legal disputes seldom tackle accountability for the depletion of ecological values. China's Environmental Public Interest Litigation (EPIL) stands out for its distinct clause that mandates defendants to provide compensation for the "diminishment of ecological service function" resulting from their legal infractions. The sole purpose of this compensation is to be allocated towards environmental preservation and climate governance, with no intention of benefiting the plaintiffs or the general public. This unique method highlights the importance of public welfare in legal proceedings, focusing on solutions that prioritize ecological and climate objectives. Through the analysis of this model, it is possible to enhance global climate litigation by reinforcing the recognition and resolution of ecological principles in response to climate change.

Climate claims are relatively more principled and abstract compared to other types of litigation, such as requiring governments to enact policies to prevent climate change, to control greenhouse gas emissions within a specific range within a few years, or to require companies to commit to clean production and energy conservation or to compensate for the damage caused. However, there has been no climate litigation request for the defendant to bear the responsibility of ecological value loss. In contrast, China's EPIL has a unique litigation request, requiring the defendant to bear the "loss of ecological service function" for violating legal obligations. This loss cannot be used for the benefit of the plaintiff or the public but only for ecological environment protection and climate governance. This design has greatly demonstrated the public welfare nature of litigation, highlighting the litigation solutions for ecological and climate values. From an international perspective, future climate change litigation can also be reformed and adjusted to strengthen the protection of ecological value for climate change.

Enhancing climate litigation to recognize and address ecological values is an essential measure for achieving effective climate governance. With its requirement to compensate for the loss of ecological service functions, China's EPIL provides a good platform for strengthening global climate litigation. This design emphasizes the altruistic aspect of litigation and guarantees that the solutions immediately help preserve the environment and manage climate-related issues.

By implementing comparable measures, forthcoming climate litigation might ensure that defendants are held responsible not only for immediate harm but also for the wider ecological consequences resulting from their actions. This transition will prioritize the inherent worth of ecosystems and their services, fostering a more comprehensive approach to climate justice. Incorporating this viewpoint into global climate litigation can facilitate significant transformation, guaranteeing that legal rulings uphold environmentally sustainable and resilient behaviors.

Incorporating the concept of ecological value loss into climate litigation will ultimately enhance responsibility and promote proactive actions to save and rehabilitate ecosystems. This strategy ensures that legal frameworks are in line with the pressing requirement to tackle climate change, guaranteeing that legal action acts as an effective instrument for safeguarding the environment and enhancing resilience to climate impacts.

5.4. The Attempt and Prospect of International Litigation

In contrast to the regional nature of environmental pollution, climate change has been an international issue from the outset. The greenhouse effect will not be limited to specific regions or countries; it will have a comprehensive impact worldwide. Therefore, addressing climate change is not the responsibility and obligation of a single country or region but a global issue faced by all countries in the world. Current climate litigation can only demand that the defendant take climate change response measures based on domestic law or international human rights provisions within the defendant's country due to the restriction of national sovereignty. There are few demands for the defendant to take transnational protective measures or to bring transnational litigation against foreign governments or enterprises directly. Whether future climate litigation can transcend the limitation of national sovereignty and allow litigation against other countries, governments, and enterprises awaits further expansion and extension of the theory and practice of climate litigation. Considering the difficulty of effectively breaking through international legal restrictions on bringing litigation against countries or governments in the short term, transnational climate litigation with enterprises as defendants can be put into practice first. Taking into account the procedural design of China's EPIL, if it is found that the actions of enterprises in other countries or regions violate the provisions of the United Nations Framework Convention on Climate Change and its protocols or violate the laws of the host country regarding environmental protection and climate change response, and have or may have an inappropriate impact on the climate, individuals or institutions from another country should be allowed to bring climate

change litigation against them. However, individual litigation attempts are not enough to bring about regular litigation practices. Therefore, transnational climate litigation, especially regional climate litigation, still needs to rely on efforts at the legislative level. Taking the ASEAN region as an example, mountains and rivers closely link the ASEAN countries, but there are significant differences in the level of development between the countries, and the level of environmental protection varies. Each country has taken different measures in environmental protection and climate change. Some countries prioritize economic development over environmental protection. In this context, forming a legally binding regional climate change treaty within the ASEAN region is necessary to coordinate all countries in addressing climate change. This treaty should define each country's national responsibilities and corporate obligations in environmental protection and climate change, establish a dispute resolution mechanism dedicated to resolving international climate disputes, and adjudicate transnational public interest litigation based on climate change, thereby making enforceable rulings within the ASEAN region.

The global nature of climate change necessitates an international approach to climate litigation, transcending the limitations of national sovereignty and domestic legal frameworks. The current state of climate litigation, which is largely confined to national jurisdictions, falls short of addressing the comprehensive and borderless impact of climate change. Expanding the scope of litigation to include transnational actions is crucial, particularly against enterprises whose activities have global repercussions.

The procedural framework of China's Environmental Public Interest Litigation (EPIL) offers a promising model for this expansion. By allowing for litigation against foreign enterprises that violate international climate agreements or the environmental laws of other countries, China's EPIL provides a template for holding entities accountable on a global scale. However, individual litigation attempts alone are insufficient to establish a consistent and effective practice.

To foster regular transnational climate litigation, legislative efforts at the regional level are essential. A legally binding regional climate change treaty within the ASEAN region, for example, could serve as a vital step forward. Such a treaty would not only harmonize national responsibilities and corporate obligations but also establish a dedicated dispute resolution mechanism for international climate disputes. This would ensure that transnational public interest litigation based on climate change is both feasible and enforceable.

In conclusion, the future of international climate litigation lies in collaborative legislative efforts and the adoption of innovative legal frameworks that transcend national boundaries. By drawing on the principles of China's EPIL and implementing regional treaties, the global community can enhance its capacity to address climate change through effective legal mechanisms, ensuring a unified and robust response to this pressing global challenge.

6. Conclusion

The pursuit of climate justice has enjoyed rapid development through climate litigation, but the primary litigation model still poses certain constraints in terms of plaintiff eligibility, legal standing, relief, and final judgments. In contrast, China's Environmental Public Interest Litigation (EPIL) has introduced a novel and unique litigation approach, where the role and function of the plaintiff in public interest litigation are merely designed to initiate the process of litigation but are refrained from any vested interests in the outcome of litigation. Therefore, the plaintiff is not burdened with excessive evidentiary responsibilities as in traditional civil litigation. Applying China's EPIL model to climate litigation can reduce current litigation barriers, expand the scope of litigation, and increase the success rate while greatly enhancing the possibility of initiating transnational climate litigation, thereby ushering in a new era of climate litigation globally.

An important and developing area of environmental law is the use of litigation to seek climate justice. There is an immediate and critical need for strong legal frameworks to tackle the growing threat of climate change and global warming to ecosystems and at-risk populations. A strong theoretical basis for comprehending and progressing climate litigation is provided by concepts like public nuisance, public trust, and human rights. Both governments and corporations have a responsibility to reduce climate harm, as emphasized in these theories, which also stress the natural connection between environmental health and basic human rights.

Examples and case studies from countries like the Netherlands and China show how the law can bring about real change. Cases like Milieudefensie et al. [3] in Europe demonstrate how lawsuits are being used increasingly to enforce climate pledges and address environmental damage, while environmental public interest litigation in China has made significant strides in holding entities accountable for ecological damage.

Nevertheless, the breadth of climate litigation is still constrained by legal restraints and national borders, even though these developments have been substantial. Establishing more thorough international frameworks and extending these legal procedures outside domestic contexts will be the task going forward. To overcome these restrictions and promote a more united global response to climate change, regional treaties and transnational climate litigation, like the ones proposed for ASEAN, could be crucial.

Addressing the complex and interrelated concerns of climate change will require the integration of multiple theoretical viewpoints and the creation of legal mechanisms for climate justice. A more just and sustainable future can be achieved if the global community works to improve climate litigation, both in principle and practice.

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