

Research on the Application of Punitive Damages System in Environmental Civil Public Interest Litigation

Fan Liu^{1, a}

¹School of Law, Anhui University of Finance and Economics, Bengbu, 233000, China

^a1542369334@qq.com

Abstract

The current environmental situation in China is serious. Ecological damage and environmental pollution occur from time to time. In order to protect the environment, China has continuously improved its environmental legislation. And in the field of environmental public interest litigation has introduced the punitive damages system. This has given China's research on the punitive damages system room for long-term development. However, in judicial practice, due to the complexity and latent nature of environmental damage, punitive damages in environmental civil public interest litigation generally suffer from vague criteria for determining the punitive nature of environmental damage, non-uniform evaluation rules of appraisal and assessment agencies, and irregularities in the management and use of funds. The recurrence of the problem of damage to the ecological environment has prevented the damaged environment from being treated and repaired in a timely manner, and has become one of the major contradictions limiting the sustainable socio-economic development of China. By drawing on overseas experience in the area of punitive damages for environmental damage, and within the framework of the existing environmental civil public interest litigation in China, we propose a response to the problems that exist in judicial practice with regard to punitive damages for environmental damage. It should clarify the conditions and specific rules for the application of punitive damages for environmental damage, unify the norms for the management and use of punitive damages for environmental damage, and strengthen the supervision of the management and use of the damages. In this way, the purpose of effectively curbing malicious acts of environmental damage can be achieved.

Keywords

Environmental public interest litigation, Punitive damages, Civil liability, Special fund for environmental public interest.

1. Introduction

With the development of the economy, people's living standards are also rising. At the same time people's awareness of environmental protection is also increasing. China is the largest developing country in the world. In order to develop our economy, we have to make use of various resources. But at the same time we are faced with a crisis of severe resource shortage and ecological deterioration. A reasonable balance is needed between developing the economy and protecting the environment. Transforming the traditional concept of economic development and expanding the tourism economy. This is a balance between protecting the environment and increasing local economic incomes. The protection of the environment is not enough to be regulated by morality alone, but needs to be controlled by law. On 12 January 2022, the Supreme People's Court published the "Interpretation on the Application of Punitive

Damages in the Trial of Ecological and Environmental Tort Disputes", which further clarifies the application of punitive damages in environmental tort cases.

Environmental issues are already a major livelihood issue for society. The Civil Code provides for the application of punitive damages in environmental tort cases in Articles 1234 and 1235. Although Article 1232 of the Civil Code provides for punitive damages, the provisions are unclear. In academic studies, scholars have different interpretations. For example, does the term "tortfeasor" in the article refer only to natural persons or does it include institutions or other organisations as defined by the State. This is an important point. This means whether the scope of the provision applies only to private environmental civil litigation or whether it also includes civil environmental public interest litigation. However, the doctrinal analysis of this provision is that the term "tortfeasor" refers only to a specific person. In 2022, the Supreme People's Court published the "Interpretation on the Application of Punitive Damages in the Trial of Disputes over Ecological and Environmental Torts", which sets out specific provisions on the application of the punitive damages system. The Procuratorate and environmental protection organisations, as representatives of the tortfeasor, can request the tortfeasor to bear punitive compensation liability.

In summary, the damage caused by civil environmental public interest litigation cases are more serious. Compared to general environmental private litigation, there is a possibility that the tortfeasor is unspecified and the result of the infringement is serious. The interpretation issued by the Supreme Court only clarifies the application of the punitive damages system in environmental civil litigation. It does not achieve the effect of improving the relevant legal provisions. Therefore, the study of how to improve the punitive damages system in environmental civil public interest litigation is an inevitable requirement for a sound rule of law society in China.

2. The Theory Underlying the Punitive Damages System in Environmental Civil Public Interest Litigation

2.1. The Nature of the Punitive Damages Regime for Civil Environmental Public Interest Litigation

Punitive damages in traditional private interest litigation are designed to enable private parties to better defend their interests. Only a party to a contract or a party in tort has the right to claim. However, in the environmental civil public interest litigation, it is a legal system with civil litigation as the basic framework. Firstly, in terms of the subject of litigation, it is detached from the directly interested parties. It incorporates the social organisations and institutions stipulated by law into the scope of litigation. In terms of the object of litigation, it points to the tort relationship that damages ecological and natural resources. This shows that environmental civil public interest litigation transcends the traditional litigation model and has a public law nature. Secondly, punitive damages in environmental civil public interest litigation carry the purpose of discipline. It is similar to criminal fines and administrative fines, and is a public law claim. Finally, the purpose of punitive damages for environmental torts in the Civil Code is to make up for its shortcomings in the repair of ecological and environmental damage. The introduction of punitive damages relief can further achieve the goal of full compensation in private law.

Thus, punitive damages in environmental civil public interest litigation possesses the attributes of a hybrid of public and private law, aiming to protect the public interest in the environment that cannot be covered by private interest litigation.

2.2. The Function of the Punitive Damages System in Environmental Civil Public Interest Litigation

2.2.1. Compensation Function

In ordinary civil tort cases, the principle of compensability is the most fundamental principle in the settlement of civil disputes. It is limited to filling the actual loss of environmental pollution, without taking into account subjective factors such as the subjective fault and motive of the aggrieved party. However, it is undoubtedly unfair to still use the compensatory principle to calculate the actual loss of environmental pollution in the present to make up for it in environmental tort cases. This is because the adverse consequences of environmental torts are complex, long-term and lagging. Examples include water pollution and indiscriminate tree felling. They all require long periods of treatment before they reach their original state, or even cannot be restored. The human and material resources expended during this period are incalculable. This is very detrimental to safeguarding the public interest in the environment. The calculation of the amount of compensation requested after ecological damage requires professional and technical personnel to identify and test the damage. Moreover, the process of environmental testing is complex, expensive and time-consuming. All these difficulties act as a hindrance to the maintenance of the public interest in the environment. Punitive damages are a complement to the principle of compensatory damages. It includes damages that have not yet been discovered in environmental torts or that may arise in the future. It is a more comprehensive and reasonable way of safeguarding the public interest in the environment. The victims of environmental torts may be a group of people living in a certain area and are fluid. Coupled with the factors of environmental destruction and imbalance in the ecosystem, punitive damages for environmental torts generally establish a special fund account dedicated to environmental restoration. Restoring the ecological environment to its original state is also, in a sense, a form of compensation for the ecological environment.

2.2.2. Punishment Function

The punitive function is the core function of the punitive damages system in environmental civil public interest litigation. The original purpose of the system was to deter tortfeasors by imposing a heavier economic burden. In environmental tort cases, the tortfeasor is often a financially strong enterprise or entity. If the public interest in the environment is only compensated for through the principle of filling, the lower cost will not have a deterrent effect on the infringers. The infringer, faced with huge economic benefits and lighter legal liability, will often ignore the law and continue to sacrifice the environment in exchange for economic benefits. This goes against the principle of matching behaviour and punishment. It is not conducive to enhancing the protection of the environment and the sound development of the ecology. When faced with environmental infringement, the subjective malevolence aspect of the infringer should be taken into account. The tortfeasor should be required to bear punitive damages higher than the actual damage caused to the environment as a penalty.

2.2.3. Prevention Function

The preventive function is the ultimate goal of the establishment of the punitive damages system in environmental civil public interest litigation. This is also the unanimous pursuit of many scholars. The principle of compensatory damages is a remedial measure to compensate for the actual results of damage. In contrast, punitive damages can prevent environmental damage from occurring and play a preventive role in advance. Professor Wang Liming believes that the preventive function is the most important function. The purpose of the punitive damages system is to protect the ecological environment from being damaged. The damage to the ecological environment is not only unprofitable, but also increases the economic burden on the infringer. Only when the tortfeasor is made aware of environmental protection and actively takes protective measures in his production and business activities can the possibility of

infringement be reduced. Perpetrators damage the environment because it is profitable to do so. Once the cost of breaking the law is higher than the economic benefits that can be gained, the perpetrator will stop damaging the environment. A punitive damages system acts as a deterrent to offenders who have already infringed and reduces the likelihood of recidivism. People involved in the relevant industry will realise that the costs of infringement are high and do not bring significant economic benefits. As a result, they will pay more attention to production quality and environmental measures to avoid infringements. This kills the infringement at the source. The interests of the infringers are safeguarded, as well as those of society at large. The aim of protecting the ecological environment is truly achieved.

3. The Application of Punitive Damages System in China's Environmental Civil Public Interest Litigation and the Problems that Exist

3.1. Status of Application

After the implementation of the Civil Code in 2021, many provinces and municipalities have started to apply the punitive damages system to specific environmental tort cases. However, the number of litigation cases of environmental pollution to which punitive damages have been applied in China is not large. A collation and analysis of them can yield the following characteristics.

In terms of the fields of application, the main fields involved in punitive damages in China at present are: illegal mining damaging mineral resources, illegal dumping of hazardous waste polluting soil resources and water resources, illegal acquisition and sale of wild and endangered animals destroying the rich diversity of nature's species, indiscriminate logging, illegal fishing of aquatic products damaging marine resources, destroying grassland ecology, polluting rivers, etc. In particular, the punitive damages system was also applied in the case of the destruction of the Great Wall and its surrounding environment in Baoding, Hebei. This is because the Great Wall is a human relic, which also falls within the realm of the environment. The destruction of cultural relics hurts national feelings, so they should be held legally responsible.

In terms of the subject of prosecution, the vast majority of cases were brought by the People's Procuratorate as the prosecutor of public interest litigation. There are but not many lawsuits brought by administrative organs. There are currently no environmental protection organisations suing.

In terms of determining the amount of punitive damages, the people's courts usually consider the defendant's subjective intent and state of remorse, the harm caused to the ecological environment, his own economic conditions, his illegal profits, and his previous performance in assuming responsibility for the repair of the damage. The multipliers used by the People's Courts in determining the amount of punitive damages also differ. The current newly issued judicial interpretation only provides for the base amount of punitive damages to be determined, but not the multiplier. A comprehensive analysis shows that the people's courts are more conservative in determining the amount of punitive damages, which is generally double the amount of the damage caused to the ecological environment.

In terms of the way punitive damages are enforced, in most cases the infringer pays the cash directly. Taking into account the economic situation of the infringers, the judicial authorities, under the principle of "restoration and repair as the mainstay and punishment and prevention as equal emphasis", have explored the possibility of "payment of ecological restoration funds", "replenishment and release. The judicial authorities, while adhering to the principle of "restoration and rehabilitation as the mainstay, punishment and prevention", have explored a series of new methods such as "payment of ecological restoration funds", "replanting and greening" and "compensation for labour". These methods not only punish infringers for their infringements, but also serve as an educational tool. This approach not only punishes the

tortfeasor's infringement, but also has an educational effect, making the tortfeasor actively participate in the restoration and treatment of the ecological environment. It also prevents the occurrence of similar environmental damage incidents. Thus, the ecological environment can be promoted and people and nature can live together in harmony.

In terms of the distribution of punitive damages, the punitive damages are mainly paid into the Public Welfare Fund account. In the case of illegal hunting of wild animals in Jiange County, the punitive damages were collected by the procuratorate on behalf of the court. Punitive damages are mainly used for the treatment and restoration of the ecological environment that has suffered damage. In practice, it is also used to cover the costs of investigation and evidence collection, appraisal and evaluation fees and attorney's representation fees required during the investigation and trial of the case, or to recognise organisations or individuals who have made outstanding contributions to the protection and management of the ecological environment.

3.2. Problems of the System

3.2.1. Failure to Include "Gross Negligence" as A Subjective Element

According to the Civil Code and the Explanation on the Application of Punitive Damages in Ecological and Environmental Tort Disputes, the tortfeasor is only liable for punitive damages for his "intentional" damage to the environment. In other words, as long as the tortfeasor's conduct is deemed to be "grossly negligent", he or she is only liable for general tort liability. As far as the civil law system is concerned, gross negligence is often similar to indirect intent. The mental attitude is that of allowing the damage to occur, usually in the form of "recklessness" and disregard for the interests of others. The subjective malevolence is no less than that of intent. The legislation strictly limits punitive damages to intentional acts, which undoubtedly raises the threshold of application of the system. It is likely to result in an inability of the tortfeasor to prove his case. In addition, in terms of social justice, it would be unfair to the generally negligent person to be held liable for the same amount of legal liability as the grossly negligent person. In order to avoid imbalance in trials and confusion in social governance, it is necessary to impose heavier penalties on the grossly negligent.

3.2.2. Inconsistent Criteria for Calculating Punitive Damages

The latest judicial interpretation of punitive damages for environmental torts provides for the calculation of the base amount of punitive damages in public interest litigation, but does not set a maximum amount of punitive damages or limit it to a reasonable range. In environmental civil actions, punitive damages are generally limited to twice the amount of the damages for personal injury or property damage. Limiting it to this range will not impose an undue financial burden on the tortfeasor. Punitive damages are established to be able to punish infringers and prevent environmental infringements from occurring, not to pursue high amounts of compensation. The absence of a maximum limit, which is left to the discretion of the judge, may make the tortfeasor bear an excessively heavy legal liability. This would not be conducive to the achievement of fairness and justice.

3.2.3. Unclear Vesting and Use of Punitive Damages

At present, the law does not clearly stipulate the allocation of punitive damages. If the distribution of punitive damages is unreasonable and all the damages are awarded to the plaintiff, it will lead to "abusive litigation". This would be detrimental to social stability. It would also infringe on the legitimate rights and interests of the defendant and have a negative impact. The lack of financial support for environmental remediation will not be resolved properly and the damage may be further increased. If it is spent by the state treasury, it will put a burden on the country's economy. If the punitive damages are only used to repair the damaged ecological environment, it will be difficult to promote the work in environmental prevention and pollution prevention. The uneven distribution will lead to further deterioration of environmental

problems. Apart from this, there is no provision for which department or organisation administers punitive damages. Each region has a different way of administering them. The current management of punitive damages in judicial practice is mainly by placing them in special bank accounts, setting up special environmental protection funds and paying them into the state treasury. Therefore, the issue of the attribution of punitive damages for environmental infringement should be regulated by legislation. Punitive damages should be reasonably allocated to all aspects of environmental management. In this way, the development of the punitive damages system in environmental civil public interest litigation should be promoted.

4. Extraterritorial Provisions on Punitive Damages in Environmental Civil Public Interest Litigation and Implications for China

4.1. Punitive Damages in Environmental Civil Public Interest Litigation in Foreign Countries

4.1.1. USA - Complete legal system

The punitive damages system in the United States is well established. As early as 1784, in the case of *Genay v. Norris*, punitive damages were already in place.

First, subjectively, there is a wide range of determinations of the application of punitive damages in the United States. There is both intent and negligence, as well as neglect of personal and property rights. Secondly, in terms of the burden of proof, the plaintiff has a heavy burden of proof. US courts require the plaintiff to bear a sufficient burden of proof to meet at least the high probability standard of convincing a jury. Thirdly, when suing for punitive damages, US judges take into account the subjective malice of the defendant. The ratio of general and punitive damages, i.e. the multiplier of the award, the benefit received by the offender as a result of the violation, and the balance sheet of the offender's environmental violations are considered together. This results in a more reasonable and appropriate punitive award.

4.1.2. UK - Specifying the Scope of Application

The UK was the first to establish and implement a punitive damages regime. The UK's focus on punishment and deterrence has led to major limitations in the areas in which it can be applied. Firstly, it is the direct victim who should bring the action. No one other than the direct victim can claim punitive damages. In civil environmental public interest litigation, the UK administration can act as a representative and bring punitive damages on behalf of the victim. Citizens and legal persons who have suffered damage as a result of an environmental tort can even claim punitive damages. However, others who have no interest are not entitled to claim. Secondly, punitive damages are only allowed once for the same offence to the defendant. Alternatively, the imposition of punitive damages may be precluded on the basis of exempt matters, such as prior agreement of the parties or the harm caused by the conduct of the plaintiff.

In the UK, on the other hand, the jury is fully advised on how to calculate punitive damages and it is left to the jurors to determine the exact amount of the award. However, in practice, the amount of damages awarded by the jurors is not approved by the judge. In some cases, the court will modify the award proposed by the jurors to ensure justice because the amount of the award is too large.

4.1.3. Australia - Broadening of Conditions of Application

Australia's punitive damages regime was developed later than that of the UK and the US. A cautious restraint has been exercised in its specific application. The country's High Court Judge Windeyer held that there should be no restriction on the range of specific cases to which the punitive liability regime could apply. As long as the defendant has committed an act of conscious disregard for the rights of others, the victim can claim punitive damages. However,

its application should also be subject to the limitations of the "due and proper" principle. That is, punitive damages as an exceptional remedy are only available for particularly immoral conduct.

The amount of punitive damages in Australia is considered by the court in the context of the wrongful act committed by the perpetrator. The primary considerations are the nature of the defendant's conduct and the consequences of the damage, both of which must be of an extremely serious nature. Further, the greater the subjective malice of the defendant, the higher the amount of punitive damages. In addition, the defendant's profitability, ability to pay and the existence of mitigating circumstances must also be taken into account. On balance, the amount of punitive damages in Australia is generally low, in most cases below A\$10,000.

4.2. Implications for China of Relevant Foreign Regulations

The application of punitive damages to environmental public interest litigation in three overseas countries has many mature and perfect laws. China's Civil Code applies the punitive damages system to environmental civil public interest litigation cases. However, there is little academic research and practical experience in this area, and there is still a need to learn from the advanced systems in other countries. In order to improve the punitive damages system in China's environmental civil public interest litigation more efficiently.

Firstly, the conditions for punitive damages should be set reasonably. The main consideration is whether the defendant has malicious intent, and the presumption of malicious intent can be derived from the subjective intent or gross negligence of the defendant in committing the infringement. Only in such circumstances can punitive damages be applied to the environmental tort committed by the defendant. At present, China only considers intent to be the only subjective fault of the tortfeasor, and has not yet incorporated gross negligence into the subjective fault.

Secondly, when implementing punitive damages in practice, China should take into account the impact of various factors on the amount of damages. In reality, the determination of the amount of punishment should not only take into account the subjective psychology of the defendant, but also whether the defendant has actively taken remedial measures. It is also necessary to take full account of the damage caused by the infringement to ensure that the amount of the penalty corresponds to the actual damage caused by the infringer's illegal conduct. The economic conditions of the infringer and its actual ability to pay should also be taken into account during the trial. Although the high amount of compensation is apparently conducive to safeguarding the legitimate rights of the victim, it will not achieve its proper punitive effect if the infringer is unable to pay in time.

Finally, the main purpose of punitive damages in environmental civil litigation in foreign countries is to warn and sanction the perpetrators of environmental violations. Therefore, the determination of the amount of punitive damages is very important in the punitive damages system. The amount of punitive damages should be appropriate; too high or too low an amount of damages will not achieve the purpose of the punitive damages system. Therefore, it is important to clarify in the legislation how to calculate the amount of punitive damages and in what way, in order to fully realise the function of the punitive damages system.

5. Suggestions for Improving the Punitive Damages System in Environmental Civil Public Interest Litigation

5.1. Making "Grossly Negligent" Conduct One of the Applicable Elements

The subjective state of "gross negligence" is characterised by a lack of attention to ecological protection and a disregard for the public interest of the environment and the public interest of the people. Although the subjective malice of "gross negligence" is lower than that of

"intentional", it usually causes serious damage to the ecological environment and reflects the disregard of the relevant personnel for their obligations. In reality, the tortfeasors who cause environmental pollution are often large enterprises. For companies with grossly negligent behaviour, general environmental tort liability does not have much impact on their development. In addition, the general tort liability and the tortfeasor's subjective malice are often not equal. Such a liability approach does not serve as a warning to tortfeasors, who are mainly enterprises. In common law countries, the element of "gross negligence" has been added to the determination of the subjective condition. In particular, the famous Exxon Valdez oil spill, a case of marine ecological tort caused by gross negligence, has deterred tortfeasors with malicious intent by providing high punitive damages. In view of the special nature of the ecological environment and the need to strengthen the protection of the ecological environment, "gross negligence" should be included as a subjective element. This will enable enterprises to strictly regulate their own behaviour and prevent and reduce the occurrence of such damage to the ecological environment.

5.2. Establishing Rules for the Calculation of Punitive Damages

The Interpretation on the Application of Punitive Damages in the Trial of Disputes on Ecological and Environmental Torts does not set a limit on punitive damages or limit them to a reasonable range. Judges have too much discretion to decide the amount of damages. Excessive damages are unfair to the tortfeasor and can easily lead to difficulties in the subsequent enforcement proceedings. Therefore, limiting the maximum amount of punitive damages enables the judge to exercise discretion in the case within the limits of the law. At the same time, it makes the amount of punitive damages awarded more just and reasonable.

We can draw on the above-mentioned common law rules to set a maximum or a specific multiple for punitive damages in environmental civil litigation to keep them within a reasonable range. The corresponding multiplier should be set at no more than three times, as the higher the multiplier, the higher the punitive damages will be and the more difficult it will be to enforce them. This would be detrimental to the subsequent restoration of the environment and the economic development of the infringer's business. The actual amount, however, is left to the discretion of the judge to decide on a case-by-case basis, and the amount of punitive damages awarded may not exceed the product of the calculation base and the multiplier. The final amount of punitive damages should satisfy the principle of proportionality and be within a reasonable range. It should be able to achieve the effect of punishing and deterring the tortfeasor without imposing an excessive burden on the tortfeasor.

5.3. Clarify the Vesting and Use of Punitive Damages

5.3.1. Improving the Allocation of Vesting of Punitive Damages

In practice, the damages awarded by the court in accordance with the filling principle are treated as non-tax revenue of the government and paid to the local treasury or relevant authorities. However, it is not known whether the same applies to punitive damages. The nature of punitive damages is different from that of damages, and their main attribution and use should be different from that of damages in general. They should neither be paid into the public treasury nor be treated as mere government revenue. They should be treated differently. As there is no specific tortfeasor in a civil environmental public interest litigation, there is no need to hand over punitive damages in public interest litigation to the tortfeasor. A portion of the punitive damages may be chosen to go to the government coffers. As it infringes on the public interest of the whole society. The government environmental protection department needs to invest a lot of human, material and financial resources in the restoration of the ecological environment. By awarding a portion of the damages to the government, the government can effectively fulfil its responsibilities, relieve financial pressure and create a better living

environment for the public. A portion of the funds will be awarded to a professional foundation, which will be used to cover the costs of environmental management and restoration. If a lawsuit is brought by an eligible social organisation, a portion should be awarded to the social organisation to cover its costs. This will provide a guarantee for the social organisations to bring lawsuits and increase their incentive to bring punitive damages in environmental civil litigation.

5.3.2. Establish Rules Governing the Use of Punitive Damages

For the management of punitive damages in the area of civil public interest litigation, a special civil public interest litigation fund account could be established. This should be accompanied by appropriate regulatory measures. Punitive damages awarded by the court in a civil public interest litigation should first be used to restore the ecological environment. For the balance, an environmental protection fund account can be set up and the funds can be earmarked for this purpose. This will serve the purpose of safeguarding the public interest in the environment. In this way, punitive damages would have a unified management body and the courts would have a clearer direction in their judicial decisions. This will not lead to a lack of clarity as to where the funds are going. It will also improve the efficiency of the use of the funds and truly earmark them.

This fund account needs to be equipped with corresponding supervision measures to ensure that the use of funds is open and transparent. To this end, it is possible to follow the US model and implement open management of public funds. The account fund needs to be fully open about the amount and timing of each punitive damages payment at the time of entry. The supervisory body can monitor the use of the funds to ensure that they are used solely for the public interest. The fund can also set up a special self-correction committee within the fund, and coordinate with the procuratorial and supervisory authorities, relevant government departments, and the public to monitor the use of the fund account. This will ensure that the funds are used in an open and transparent manner and prevent corruption.

6. Conclusion

With the introduction of the Civil Code, the punitive damages system for environmental civil public interest litigation was also established. The judicial interpretation on the application of punitive damages in the field of environmental tort provides for specific issues in its application. This shows that China's ecological environmental protection has a strong legal guarantee. Punitive damages can effectively compensate for the shortcomings of compensatory damages, deter tortfeasors from recurring violations, and safeguard the public interest in the ecological environment. In order to make the most of punitive damages in environmental public interest litigation, we have proposed recommendations on the conditions for the application of punitive damages, the limit of punitive damages, and the allocation and implementation of punitive damages. At present, there are fewer environmental civil public interest litigation cases with punitive damages in judicial practice, and judicial experience is limited. The punitive damages system for environmental civil public interest litigation is more standardised and clear in its application in order to help us actively address ecological and environmental issues.

References

- [1] Peng Xiaoxia and Zhou Bohuang: the Application of "Punitive Damages" in Environmental Civil Public Interest Litigation, *Journal of the Chinese Academy of Environmental Management*, Vol. 13(2019) No. 4, p. 20-22.
- [2] Lv Zhongmei: Legal Analysis of "Ecological Environmental Damage Compensation", *Law Forum*, Vol. 22(2017) No. 3, p. 9-11.

- [3] Zhou Primran: on the Construction of Punitive Damages System in Environmental Civil Public Interest Litigation, Journal of Central South University (Social Science Edition), Vol. 36 (2018) No. 2, p. 52-62.
- [4] Que Zibing:Exploration on the Introduction of Punitive Damages for Environmental Tort - Introduced by the (2016) Ganmin Final 1 Judgment,Xiangjiang Youth Law,Vol.22(2016) No.2,p.20.
- [5] Shen Jinzhong: the Application of Punitive Damages in China's Environmental Tort, Tianjin Law, Vol. 14(2020) No. 3, p. 42-47.
- [6] Wang Xiuwei: Rethinking and Reconstructing the Allocation of Burden of Proof in China's Environmental Civil Public Interest Litigation, Law Review, Vol. 12 (2019) No. 2, p. 8.
- [7] Liu Jiapu, Chen Shili and Liu Panpan: An Analysis of the Punitive Damages System in Civil Public Interest Litigation in the Field of Ecology and Environment, People's Procuratorate, Vol.5(2022) No.11, p.46-48.
- [8] Li Chunni: A Study on the Legal Application of Punitive Damages In Environmental Tort, Journal of Jiangxi University of Technology, Vol. 35(2021) No. 6, p. 23-25.
- [9] Liu Shiguo: A Review of the Civil Code's "Liability for Environmental Pollution and Ecological Damage", Oriental Law, Vol. 24(2020) No. 4, p. 66-68.
- [10]Jiang Hong: on the Possibility and Limits of Punitive Damages in Environmental Civil Tort Cases, Social Scientist, Vol. 11(2017) No. 8, p. 6.
- [11]Zhang Qian:Reflections on the Application of Punitive Damages in Environmental Civil Public Interest Litigation, Journal of the Party School of the CPC Hefei Municipal Committee, Vol.35 (2021)No.4,p.25-26.