

# Research on Judicial Application of Soil Pollution Remediation Responsibility in China

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## ABSTRACT

The Soil Pollution Prevention and Control Act of the People's Republic of China was enacted on January 1st, 2019, thereby establishing a solid legal foundation to enhance and regulate soil pollution control measures within China, and addressing the deficiencies and completing the legal framework for soil pollution prevention and control. However, in the specific judicial practice process, the determination and the determination of soil pollution remediation liability often involves intricate processes and ever-changing characteristics, and the relevant legislation on soil pollution management responsibility needs further improvement. This study utilizes a sample of 12 soil pollution infringement cases from real-world judicial practice to examine the application and enforcement of remediation responsibilities in such instances. It clarifies difficulty in sharing responsibilities between the responsible entities, proving causal relationships, unclear direction of remediation costs, and unclear protection and remediation standards. Based on the analysis, this article further suggests pertinent strategies to refine and enhance the judicial application mechanism for addressing soil pollution remediation responsibilities within China and better protect the soil ecological environment.

## KEYWORDS

Soil Pollution Prevention and Control; Judicial Application; Repair Responsibility.

## 1. INTRODUCTION

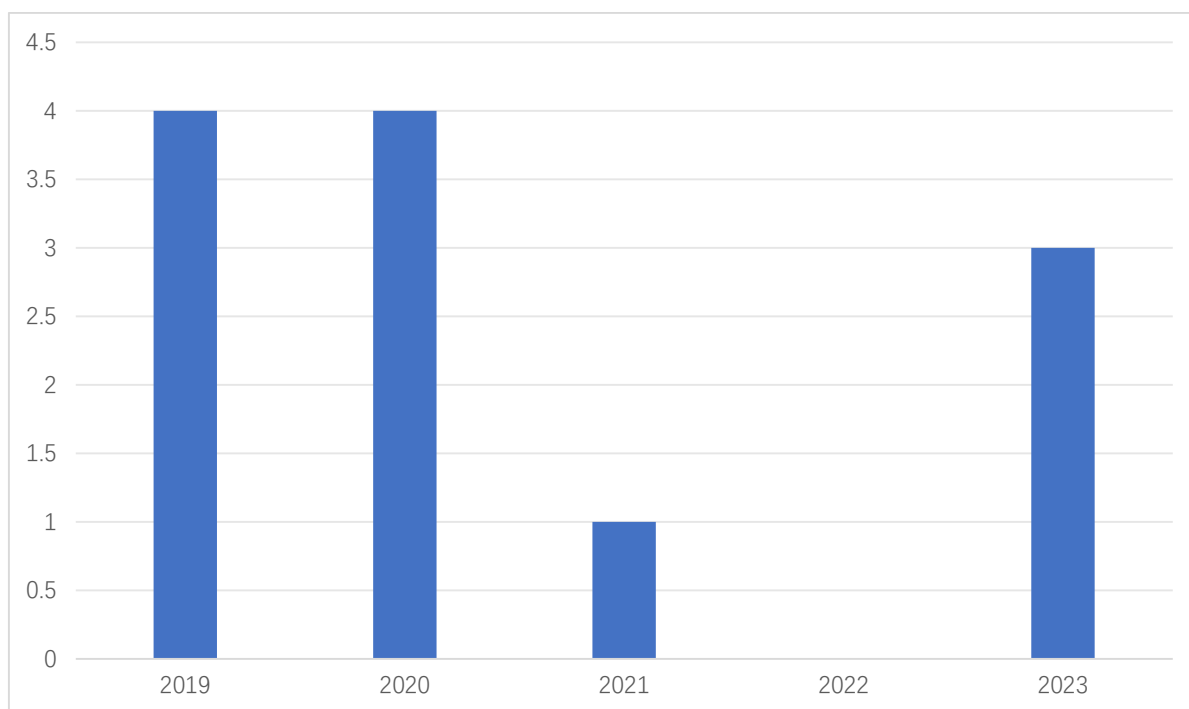
Soil pollution, due to its unique characteristics of accumulation, lag, and complexity, has become a major challenge in the field of environmental protection. With the accelerated promotion of green ecology and modern civilization construction, the Soil Pollution Prevention and Control Law has demonstrated its indispensable position, laying a solid legal guidance framework for long-term soil pollution management and remediation. This study deeply analyzes the application of soil pollution remediation responsibility in judicial practice, aiming to expose specific practical obstacles that affect its effective implementation, and through the perspective of judicial examples, analyze in detail the real difficulties encountered in the process of implementing this responsibility, striving to identify problems from an innovative perspective and explore optimization solutions. Nowadays, the responsibility for soil pollution remediation has developed into a powerful legal tool to address ecological and environmental challenges. With the deepening of society's understanding of the ecological value of the environment and natural resources, it has become crucial to ensure that the effective assumption of remediation responsibilities in solving legal issues related to soil pollution can bring substantial positive ecological impacts. The fundamental purpose of this study is to promote the effective transition of soil pollution remediation responsibility from theoretical conception to practical action, confront the damage faced by China's soil ecosystem, lay a solid legal support for promoting ecological civilization construction, and further promote the sustainable development of ecological civilization.

## 2. JUDICIAL APPLICATION STATUS OF SOIL POLLUTION REMEDIATION RESPONSIBILITY

According to the 2022 China Ecological Environment Status Bulletin, China has established an effective soil environmental risk management mechanism nationwide and has achieved initial results, successfully curbing the continuous deterioration of soil pollution. In order to comprehensively present the practical application of soil pollution remediation responsibility in judicial judgments, this article takes "soil pollution liability dispute" as the cause of action, based on the plaintiff's demands in the lawsuit, and uses specific demands such as "repairing contaminated soil", "restoring soil pollution damage", and "bearing corresponding environmental remediation costs" as the criteria to measure the defendant's responsibility for soil pollution remediation. By screening and removing judgments that do not meet the standards and have duplicate content, a detailed review of a total of 36 relevant judgments published on the Chinese judicial documents website is conducted. Finally, obtain 12 typical case samples that meet the conditions. A typological analysis was conducted on the temporal and spatial distribution of cases, trial levels, and litigation subjects, and a systematic induction was carried out based on this.

### 2.1. Spatiotemporal Distribution

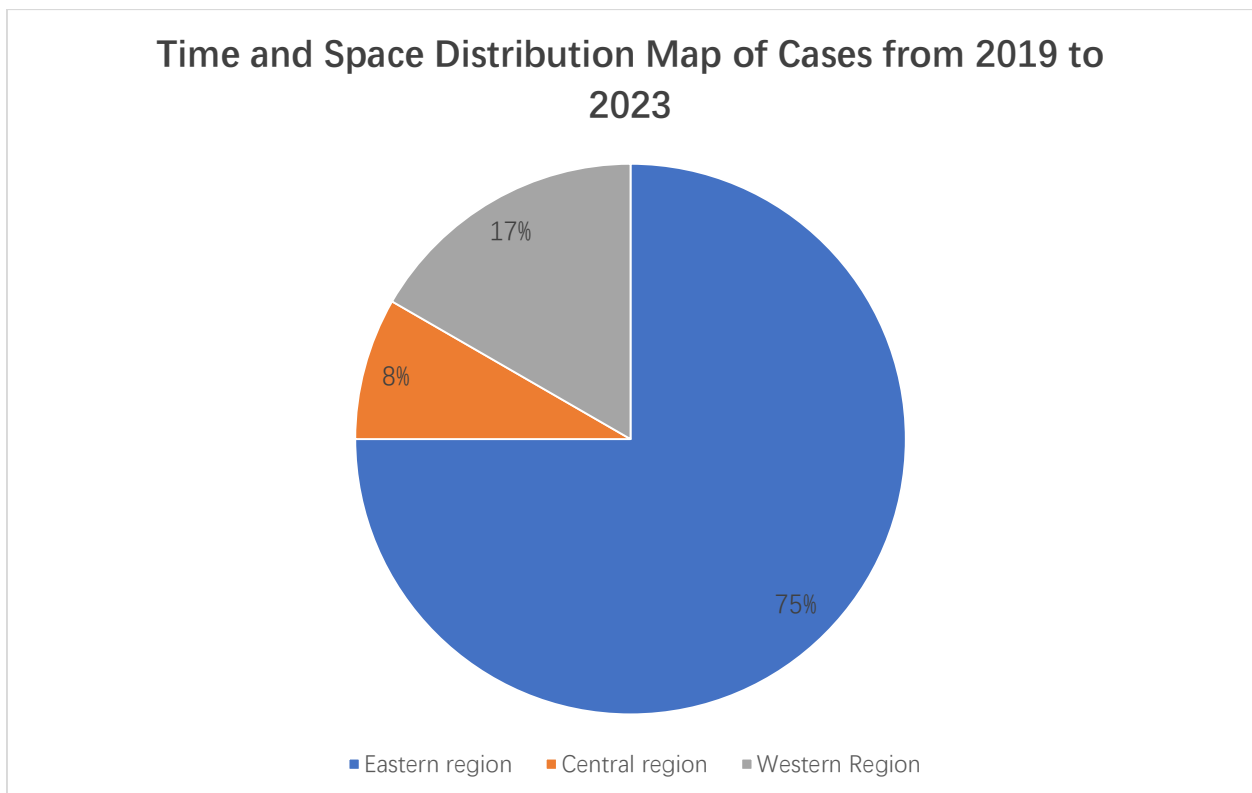
The time range of the judgment documents included in this article covers a total of 5 years from 2019 to 2023, as shown in Figure 1.



**Figure 1.** Statistics of the number of cases applicable to soil pollution remediation responsibility from 2019 to 2023 (cases)

From Figure 1, it can be seen that the Soil Pollution Prevention and Control Law was officially introduced in 2019, which made clear provisions on the specific content of soil pollution remediation responsibilities, becoming a major breakthrough at the legislative level. However, in the actual implementation process, its application effect did not show the expected enthusiastic response. The frequency of adopting this form of responsibility in various judicial judgments is relatively low, and

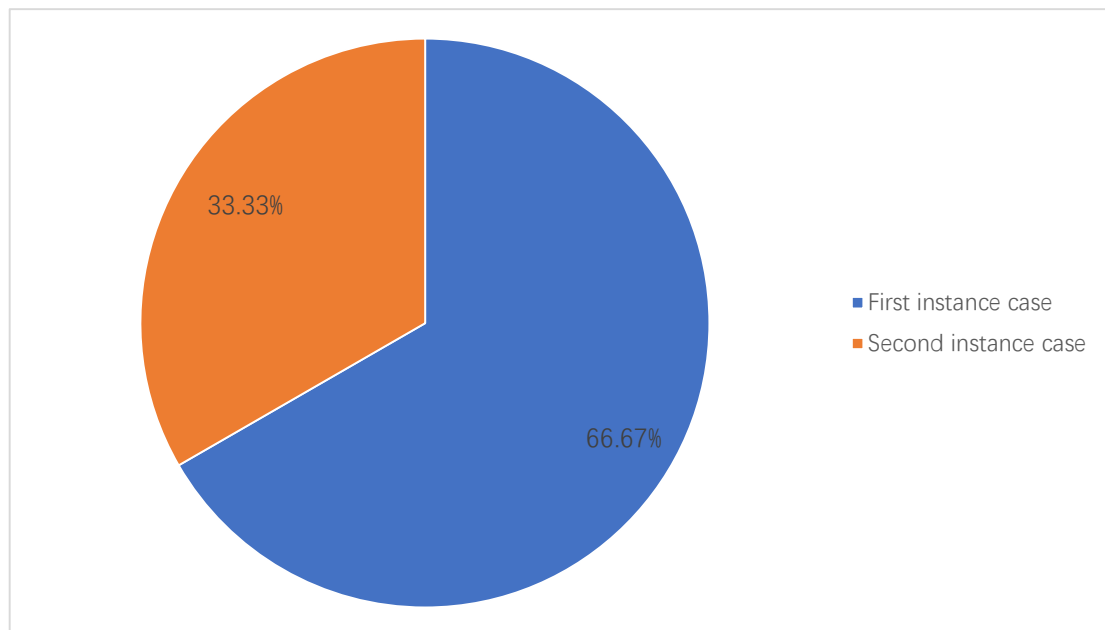
the increase in the number of related cases over the past five years is not significant. From a regional perspective, a total of six provinces in China have mentioned soil pollution remediation responsibilities in their judgments, with varying numbers of cases in each province. The Eastern Regional Court (including Beijing, Hebei, Shandong, and Guangdong provinces) has ruled on a total of 9 cases of soil pollution remediation responsibility; One case of soil pollution remediation responsibility was judged by the Central Regional Court in Henan Province; Two cases of soil pollution remediation responsibility were judged by the Chongqing Municipal Court in the western region, and the statistical situation is shown in Figure 2. The reason for this is that there are more cases of soil pollution remediation responsibility in the eastern region and fewer in the central and western regions, which is related to the high level of economic development in the eastern region.



**Figure 2.** Spatial and Temporal Distribution of Cases Subject to Soil Pollution Remediation Responsibility from 2019 to 2023

## 2.2. Hierarchical Type

According to the search results, there are 8 samples of first instance cases involving soil pollution liability disputes, with a case proportion of 66.67%; There are 4 second instance samples, with a case proportion of 33.33%. The statistical situation is shown in Figure 2. The proportion of appeal cases in the sample is quite high, reaching a 33.33% appeal rate. Through a detailed analysis and summary of the appeal reasons in the sample, the following core aspects can be identified: firstly, the high appeal rate of soil pollution liability dispute cases is largely due to the existence of significant disputes over civil liability and the specificity of the burden of proof for environmental infringement; Secondly, the credibility of pollution identification results is questioned; Thirdly, there are issues such as vague factual definitions and deviations in legal application. To prevent the ineffective consumption of judicial resources and avoid unnecessary litigation burdens, environmental judicial adjudicators need to possess higher levels of professional competence.



**Figure 3.** Soil Pollution Liability Dispute Cases from 2019 to 2023

### 2.3. Subject of Action

The Civil Code of the People's Republic of China clearly defines the three basic categories of civil subjects, namely natural persons, legal persons, and unincorporated organizations. This study carefully examined the distribution and proportional relationship between the plaintiff and defendant based on these three types of subjects in 12 cases. Special attention has been paid to the frequency of natural persons appearing as plaintiffs in lawsuits related to soil pollution remediation responsibilities, with a total of 8 cases, accounting for as high as 66.67%. On the other hand, there were three cases in which legal entities acted as plaintiffs, accounting for about 25% of the total cases, while there was only one case in which non legal entities acted as plaintiffs, accounting for 8.33%, which is quite rare.

When analyzing the characteristics of the defendant's composition, the legal dispute over soil pollution remediation responsibility clearly tends towards one direction: the cases of for-profit legal persons being listed as defendants are particularly prominent, with a total of 9 cases, accounting for 75% of the total cases, strongly reflecting the significant legal obligations that for-profit enterprises undertake in soil pollution issues. Although the number of cases is limited, natural persons and special legal entities occasionally appear in the defendant's seat. This data analysis result is closely aligned with the viewpoint clearly stated in the "National Soil Pollution Status Survey Bulletin" that enterprise emissions are the primary factor in soil pollution, further deepening the understanding of the core position of legal persons, especially for-profit legal persons, in soil pollution issues.

## 3. DIFFICULTIES AND CHALLENGES IN THE JUDICIAL PRACTICE OF SOIL POLLUTION REMEDIATION RESPONSIBILITY

### 3.1. Difficulty in Dividing the Responsibility Shares among Various Responsible Parties

According to Article 94, Paragraph 4 of the Soil Pollution Prevention and Control Law, if the person responsible for soil pollution or the land use right holder fails to fulfill their soil remediation obligations as required, the ecological environment department of the local people's government or other institutions with soil pollution prevention and control supervision power have the right to impose penalties on them. A minimum fine of 20000 yuan and a maximum fine of 200000 yuan shall

be imposed. If the violation persists and refuses to be corrected, the fine amount shall be increased to at least 200000 yuan and not exceeding 1 million yuan, and a third party may be authorized to complete the restoration work on its behalf. All expenses incurred during this period shall be borne by the person responsible for the illegal soil pollution or the land use right holder. In addition, those directly responsible supervisors and other directly responsible personnel involved will also be fined between 5000 yuan and 20000 yuan per person in accordance with the law. In the 12 cases reviewed, it is rare to clearly determine that a defendant caused soil pollution solely through independent actions. In most cases, it is often the joint actions of two or more defendants that result in the same soil pollution outcome. Although rulings typically determine that all parties responsible for repairs must jointly bear inherent joint and several liability, there is often less discussion on the specific allocation and subdivision of internal responsibilities. In this case, new legal disputes may arise when making a ruling on the defendant and the parties sharing the responsibility for repair. In fact, there is currently a lack of sufficient and comprehensive legal provisions to comprehensively clarify and properly address the issue of joint liability and specific share determination among the responsible parties for soil pollution remediation. By gaining a deeper understanding of the underlying principles behind this phenomenon, it is relatively easy to determine the allocation of internal responsibility when soil pollution is caused by a single responsible behavior. When facing the situation where multiple responsible persons jointly bear the responsibility for soil pollution remediation, it is necessary to comprehensively consider many important factors, such as the degree of subjective fault of each joint responsible person, whether there is a joint intention or connection between them, etc., which will directly affect the reasonable allocation and assumption of internal responsibility shares.

### 3.2. Difficulties in Proving Causal Relationships in Soil Pollution Infringement

**Table 1.** Statistical Analysis of Causal Relationships Applicable in 22 Soil Pollution Remediation Cases

Application method of causal relationship	Total number of cases (example)	Proportion of total cases
Inverted burden of proof	3	25%
Causal inference rules	8	66.67%
Who claims and who provides evidence	1	8.33%
total	12	100%

Based on the data presented in Table 1, we can clearly observe that in the judicial practice of resolving disputes over soil pollution remediation liability, multiple rules for proving causal relationships have been adopted. This situation precisely reflects the lack of a unified judicial application standard for such cases, for the following reasons:

The primary issue is that there are differences in the provisions of legal responsibility among relevant legislative bodies in China, and this ambiguous understanding of legislative norms has led to different application perspectives in practical operations. Article 66 of the Tort Liability Law clearly stipulates the principle of reversing the burden of proof, but it has still sparked significant disagreements and debates in practical application. In 2015, the Supreme People's Court issued a new judicial interpretation, marking a significant shift in legislative theory, which requires the plaintiff to first bear the preliminary burden of factual evidence and meet the minimum level of proof rules. Obviously, the inherent conflicts in the legislative process have been intuitively demonstrated in practical operation. Specifically, the contradictions are reflected in the inconsistency between the principle of reversing the burden of proof for soil pollution remediation and the application of the rules of presumption of causality, which directly leads to significant differences in the judge's ruling results.

According to Article 6 of the Judicial Interpretation on Environmental Tort Liability, in actual case trials, the primary task of the victim is to demonstrate that there is indeed a certain correlation between harmful substances and their derivatives originating from the pollution source and the damage suffered by themselves. In other words, it indicates that the pollution behavior has the potential to cause damage. However, different courts have not reached a unified standard when applying the causal relationship proof rule. Even within the same framework of rules, the court's expression of causality is often vague, failing to clearly distinguish the boundary between "preliminary proof" and "sufficient proof", and lacking specific criteria for judging "relevance". In this case, the presence or absence of an appraisal opinion becomes crucial. If an appraisal opinion can be obtained to support the existence of a causal relationship, it is usually considered that a preliminary causal relationship has been established; On the contrary, if there is a lack of such evidence to support it, there may be a risk of litigation failure.

Secondly, the system of reversing the burden of proof has highlighted a series of issues that deserve attention in practical application. Under the current burden of proof allocation system, the direct burden of proof that the plaintiff needs to bear is significantly reduced compared to the defendant. This proof mechanism reflects a certain irrationality in the allocation of responsibility, which in turn challenges the legitimate rights and interests of all parties involved in the causal relationship in ensuring timely, comprehensive, and effective protection, making it difficult to achieve a balance of rights and interests.

Finally, when dealing with cases involving the presumption of causality proof rules, the parties involved and the judge did not reach a consensus on the recognition and understanding of the proof standard of "relevance". In the process of applying the proof rules, judges should pay attention to establishing rigorous standards to accurately identify and judge the essential connotation of the theoretical concept of "relevance". In judicial practice, strict standards must be upheld for this, otherwise, the plaintiff may not be able to fully complete their task of proving causality due to difficulty in meeting the increased liability standards, which will undoubtedly increase the difficulty of the plaintiff's proof invisibly. If a broader standard is adopted, it may make it more difficult to define the boundary between the principle of reversal of burden of proof and the rule of presumption of causation.

### **3.3. Unclear Destination of Soil Pollution Remediation Costs**

At present, China's soil pollution remediation work faces both opportunities and challenges, mainly due to the high cost and low investment of soil pollution remediation, which has become a major bottleneck and obstacle to the implementation of soil pollution remediation responsibilities. Although China's special fund system is constantly improving, it still cannot provide sufficient and stable funding support for establishing and realizing the responsibility of soil pollution remediation and control. Due to the fact that environmental issues arise in the process of natural resource development and utilization, and are a "byproduct" of human socio-economic activities, relying solely on administrative regulations for external regulation of environmental issues is not only costly, but also cannot solve the internal driving force of resource conservation and environmental protection. At present, in civil litigation, the court generally has two different methods for handling the pollution control fees paid by the soil pollution remediation responsible person who is ordered to compensate: the first is to directly transfer the soil pollution remediation fees borne by the judgment responsible person to the provincial treasury through the provincial non tax revenue collection and management system and the financial invoice management system, and the local finance will return them to the environmental protection department as general expenses for soil pollution remediation and treatment. The second method is to directly transfer the cost of repairing soil pollution to the personal account designated by the plaintiff. However, neither of these methods can ensure that funds for soil pollution control can be used reasonably and effectively. The primary issue is that local governments have not yet reached a consensus on the allocation of environmental protection funds; Furthermore, plaintiffs

who play the role of plaintiffs often lack the corresponding professional knowledge and skills in managing and using funds for soil pollution control. Therefore, how to ensure that the plaintiff will use this money for soil restoration and treatment. In environmental public interest litigation, this issue has been improved, but there is still a lack of supervision over the allocation and use of repair funds.

### **3.4. Unclear Soil Pollution Protection and Remediation Standards**

In judicial trials, accurately determining whether the relevant parties have successfully fulfilled their responsibilities for soil pollution remediation and achieved the predetermined remediation goals is also a major challenge. For example, in a soil pollution liability dispute case between Liaocheng People's Procuratorate as the plaintiff in a public interest lawsuit and Shengyuan Petrochemical Co., Ltd. and its responsible person Yang Enzhao in Puyang City, Henan Province, the court made the final decision: the defendant shall be responsible for repairing the soil contaminated by it, striving to restore it to its original state; If complete restoration cannot be achieved, a total of RMB 1.824 million in compensation for ecological and environmental damage caused by pollution shall be paid. In similar cases, the specific standards for soil remediation have not been clearly defined, making it difficult to determine to what extent the infringer can be considered to have fully fulfilled their remediation responsibilities. Without clear acceptance procedures and standards, the application of soil pollution remediation responsibilities cannot be truly implemented. In order to ensure the effectiveness of soil pollution remediation work, it is necessary to conduct a detailed evaluation of the remediation activities carried out by the defendant, clarify the deadline for acceptance, and strengthen the supervision and control of the entire acceptance process. These measures are essential components to ensure the substantial results of soil remediation work. Therefore, it is urgent to establish a complete and standardized judgment system.

## **4. OPTIMIZATION PATH FOR JUDICIAL APPLICATION OF SOIL POLLUTION REMEDIATION RESPONSIBILITY IN CHINA**

### **4.1. Clarify the Responsibility Sequence and Share Allocation among the Responsible Parties for Soil Pollution Remediation**

Firstly, regarding the division of responsibility shares among multiple soil pollution remediation entities, the primary task is to establish the principles and standards for joint and several liability allocation at the legislative level. In addition, local courts can appropriately determine the proportion of responsibility that each relevant person should bear based on the specific local situation. Secondly, when the state responsible party and the behavior responsible party coexist, there will be a problem of the order of responsibility. There is a viewpoint advocating that under the legal framework of our country, the state responsibility party should be regarded as a supplement to the behavior responsibility party, and both can play a role simultaneously, but cannot be simply arranged in the order of behavior responsibility parties. On the contrary, the most appropriate and reasonable repair sequence should be determined based on the principles of speed and efficiency. Some scholars have put forward the view that, given that the responsible party usually has the most detailed understanding of the actual situation of polluted land, it should be established as the primary responsible party. Once the responsible party is unable to fulfill its repair responsibilities, the state responsible party should take over and assume governance responsibilities. This article agrees to prioritize the first viewpoint, emphasizing the need to immediately initiate remediation and treatment work after soil pollution, in order to achieve legislative goals to the greatest extent possible. It is worth noting that this does not require all state responsible persons to bear ultimate responsibility, and their degree of responsibility should match their subjective fault level. State responsible persons without fault also have the right to seek compensation. In addition, for situations where there are multiple responsible parties, relevant regulations in Taiwan can be used as a reference, that is, the order of responsibility of the responsible

parties should be set according to the order of land users and land managers. This principle is based on the strength of each party's ability to control polluted soil to determine the order of their responsibility.

#### **4.2. Strictly Implement the Rules of Presumption of Causality**

In judicial practice, the rules for determining the causal relationship of soil pollution remediation responsibility demonstrate the interactive competition and equilibrium state among various stakeholders. Causal relationships contain uncertain elements, including value judgments, which require us to weigh and make value judgments between actors and those influenced by them. In the practical application process, it is necessary to comprehensively consider the unique characteristics of soil pollution cases, that is, the plaintiff is in a weak position in providing evidence. Due to limitations in litigation costs, evidentiary ability, and other aspects, it is often impossible to prove the causal relationship between it and environmental pollution, and the litigation rights of the defendant cannot be ignored. Therefore, the interests of both the plaintiff and the defendant should be taken into account. In addition, considering the public interest, the ecological damage caused by soil pollution and the threat it poses to human survival and safety cannot be ignored. In the application process, it is necessary to encourage, promote, and support the rapid accountability of soil pollution remediation responsibilities, in order to simplify and reduce the difficulty of identifying causal relationships. Therefore, in the determination of soil pollution remediation responsibility, adopting the principle of presumption of causality rather than the principle of reversal of burden of proof is the most in line with the interests of the parties involved. To promote the development of this rule, it is necessary to clarify to what extent the plaintiff should provide preliminary evidence. In disputes over soil pollution remediation liability, the necessary condition for applying the presumption of causality is that the plaintiff is responsible for providing evidence of the basic facts of the dispute. Compared with general property damage, the determination of causality for soil ecological environment damage only needs to meet the most basic criteria and conditions for determination. In addition, according to empirical rules, judges can make subjective judgments on the initial evidence provided by the victim. Only when the judge cannot establish a causal relationship between the pollution behavior and its consequences based on existing evidence, will the plaintiff bear the legal consequences of the inability to provide evidence. Finally, the defendant shall bear a highly probable burden of proof to prove that there is no causal relationship between the pollution behavior and the resulting pollution consequences, and provide legally binding reasons for exemption or waiver.

#### **4.3. Supervision and Management of Funds for Implementing Soil Pollution Remediation Responsibilities**

The supervision and management of funds for soil pollution remediation is a key link in ensuring the effective implementation of soil pollution remediation work. Building a comprehensive soil pollution prevention and control fund system, using funds to solve problems such as the shortage of soil pollution prevention and control funds in judicial practice and subsequent use supervision, can be effectively addressed. The revised Soil Pollution Prevention and Control Law in 2019 established a soil pollution control fund system in legislation. The design of this system not only follows the pace of social development, but also is based on a solid foundation of environmental protection policies. It can draw on the practical experience of international successful cases and provide a basic legal framework and guiding principles for the supervision and management of soil pollution remediation funds. Implementing the supervision and management of soil pollution remediation funds through funds can be approached from the following aspects: firstly, stable and sufficient financial resources. Currently, the funding sources of soil pollution prevention and control funds exhibit diversified characteristics, mainly covering multiple channels such as prevention and control costs paid by pollution responsible parties, environmental protection taxes collected in accordance with the law, national financial special appropriations, and donations from enthusiastic individuals and groups from



all walks of life. These can not only serve as stable and sufficient sources of funding for the fund, but also effectively implement the principle of damage sharing for the soil pollution prevention and control fund.

Secondly, with professional and rigorous management rules, the Soil Pollution Special Fund has successfully filled the gaps in local finance and individual investment in soil pollution control through its specialized fund management and rigorous fund utilization rules. Finally, a sound regulatory mechanism is an important safeguard to ensure the effective implementation of the funding mechanism for soil pollution prevention and control. The use of the Soil Pollution Prevention and Control Fund is subject to internal audits, with relevant departments regularly auditing and inspecting the use of funds to ensure that they are used according to prescribed purposes and procedures. It is also subject to external supervision. Government departments focus on improving the transparency of soil pollution remediation fund supervision and management, regularly disclosing the use of funds and audit results, and accepting social supervision. All funds are used with clear standards, records, purposes, and benefits to ensure their effective utilization. Establishing a soil pollution prevention and control fund system provides a feasible path for effectively fulfilling the responsibility of soil pollution prevention and control at the judicial practice level, ensuring that the funds for soil pollution remediation are used for specific purposes. Through this system, funding difficulties in the implementation of relevant responsibilities can be solved, and rich practical experience can be accumulated. At the same time, this measure has laid a solid foundation for building a long-term and effective soil pollution prevention and control responsibility fund guarantee system in China, ensuring the effective use and management of funds, and promoting the smooth implementation of soil pollution remediation and prevention work.

#### **4.4. Improve Soil Protection Standards and Restoration Standards**

The responsibility for soil pollution remediation is an important measure to punish soil pollution. The effectiveness of the application of soil pollution remediation responsibility in judgments must be measured by standards. In judicial practice, the application of soil pollution remediation responsibility must have corresponding acceptance systems to test the effectiveness of the responsibility of the responsible party. The soil pollution remediation acceptance system is a post supervision procedure applicable to the responsibility of soil pollution remediation, including a complete system design of acceptance subjects, acceptance standards, and acceptance supervision. For the soil pollution remediation responsibility ordered by the defendant in the judicial judgment, the enforcement department of the people's court, together with the plaintiff and social professional institutions, can serve as the acceptance subject. For the acceptance criteria, relevant soil environmental ecological standards should be issued according to local conditions. We should not only focus on whether the "quantity" of restoration meets the standards, but also pay attention to the "quality" of restoration, that is, whether the service functions of the entire ecosystem have been restored or improved. At the same time, it is also important to pay attention to the supervision of soil pollution remediation acceptance, including the supervision of the remediation acceptance and the two stages after acceptance. A sound acceptance system for soil pollution remediation is an effective system to ensure the true realization of soil pollution remediation responsibilities, and also promotes the establishment of a good guarantee mechanism, with the aim of smoothly carrying out soil pollution remediation and control.

## **5. CONCLUSION**

Promoting green development and promoting harmonious coexistence between humans and nature is an inevitable requirement of the national strategy for ecological civilization construction. Therefore, if the ecological environment is damaged, the responsible party should compensate, repair, and bear corresponding tort liability in accordance with the law. However, in China's judicial practice, there is

still significant room for development in the implementation of soil pollution remediation responsibilities, which needs further exploration and improvement. The core goal is still to solve and optimize the application of soil pollution prevention and control responsibilities, so that this responsibility mechanism can directly or indirectly effectively manage and repair the damage suffered by the soil environment. This article systematically studies the application of soil pollution remediation responsibility in judicial practice in China through in-depth analysis of 12 judicial documents, aiming to provide valuable reference and inspiration for further improving the system.

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