Judicial Application of Environmental Pollution Crime in the Soil Field of China: An Empirical Analysis of 103 Judgements

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Abstract. To clarify the judicial practice of environmental pollution crime in the field of soil, this article will combine the research of environmental criminal law and soil field, and allow a method of empirical analysis for cases of environmental pollution crime in the soil field through categorical integration. Results showed that environmental pollution crime of soil field was mainly committed by the natural person; the term of fixed-term imprisonment and the amount of criminal fine were low; the defendant had a good attitude to plead guilty; the application of penal auxiliary measures was mainly focused on confiscatory auxiliary measures.

1. Introduction

There is a stark contrast between China's huge population and the scarcity of fertile land [1]. Due to the acceleration of industrialization and urbanization, environmental contamination of soil is becoming more and more frequent [2]. Therefore, how to powerfully regulate the behavior of soil pollution and ensure that the ecological environment can be restored in a timely and effective way has become a major challenge in the prevention and control of soil pollution.

In China, research in the field of soil contamination has mainly focused on theoretical studies concerning the characteristics, impacts, and current status of soil contamination [3-4]; empirical analysis involving risk assessment [5-6], application of remediation methods and techniques [7-8-9-10] of soil contamination. There was a lack of articles on how to use environmental criminal law to regulate the behavior of soil contamination. Research in the field of environmental criminal law has mainly focused on theoretical studies concerning legislative improvements of environmental pollution crime [11]; empirical analysis involving legal issues and judicial application [12] of environmental pollution crime. There was a lack of analytical articles specific to the field of soil contamination. To clarify the judicial practice of environmental pollution crime in the field of soil, this article will combine the research of environmental criminal law and soil field, and allow a method of empirical analysis for cases of environmental pollution crime in the soil field through categorical integration.

2. Materials and Methods

2.1. 101 judgments from China Judgments Online

To reveal how Chinese courts apply environmental pollution crime in the soil field, this research allowed a case study approach to analyzed 103 cases of 18 provinces from China Judgments Online. There were five search terms for these cases, including "soil pollution" in the full text, “environmental pollution crime” in the case name, “criminal cases” in the case type, ”criminal first instance” in the trial procedure, and “judgments” in the document type. After reading each case manually, and merging the identical and related cases, there were 89 valid cases as analytical samples. The case statistic chart is shown in Figure
1. **Analytical procedure**

The method of empirical analysis was used for these cases through categorical integration. Samples were analyzed for “criminal subjects”, “principal punishment”, “supplementary punishment”, “sentencing circumstances” and “penal auxiliary measures”. The criminal subjects include the entity and natural person. The principal punishment includes fixed-term imprisonment and criminal detention. The supplementary punishment is mainly criminal fine. The sentencing circumstances include statutory mitigating circumstances involving “self-accusation”, “confession” or “meritorious performance”, and consider mitigating circumstances involving “voluntary plea of guilty”, “first and occasional offense”, “voluntary surrender of illegal income or criminal fine”, ”active payment of hazardous waste disposal and ecological restoration fee or active cooperation with relevant personnel to restore ecological environment”, and statutory aggravating circumstances involving “recidivist”, and consider aggravating circumstances involving “previous conviction or misdemeanor”. The penal auxiliary measures include “educational, administrative, civil and confiscatory auxiliary measures”.

3. **Results and Discussion**

3.1. **The number and percentage of criminal subjects in the environmental pollution crime of soil field**

Of the 89 valid cases, there were 6 joint crimes committed by the entity and natural person and 83 crimes committed by the natural person. The percentage of criminal subjects in the two categories was shown in Figure 2. A possible explanation for such an obvious difference was that the elements of crime committed by the entity were difficult to prove. The establishment of crime committed by the entity requires that manifest the will of the entity as a whole. But in practice, it was usually done informally by someone with no record of it.
3.2. The application of principal punishment in the environmental pollution crime of soil field

As shown in Figure 3, there were 287 natural persons as criminal subjects, including one person who was not sentenced to liberty penalty, 23 persons who were sentenced to criminal detention, 79 persons who were sentenced to less than one year in prison, 144 persons who were sentenced to more than one year and less than three years in prison, 40 persons who were sentenced to more than three years in prison. Notably, probation was applied to 79 persons. Based on the statistical results, it can be seen that the term of imprisonment was lower than other crimes in the environmental pollution crime of soil field.

![Principal punishment](image)

Figure 3: Summary of principal punishment

3.3. The application of supplementary punishment in the environmental pollution crime of soil field

As shown in Table 1, the amount of criminal fine imposed by the entity was mainly concentrated at less than 500,000. As shown in Table 2, the amount of criminal fine imposed by the natural person was mainly concentrated at 10,000 to 50,000 (including 10,000). The statistical results suggest that the amount of criminal fine in the environmental pollution crime of soil field was very low and out of proportion to environmental losses.

| Subject | The entity |
|---------|------------|
| Amount  | Less than 500,000 | 500,000 to 1 million (including 500,000) | More than 1 million (including 1 million) |
| Number of people | 7 | 3 | 2 |
| Proportion | 58% | 25% | 17% |

Table 1: Summary of criminal fine imposed by the entity

| Subject | The natural person |
|---------|-------------------|
| Amount  | Less than 10,000 | 10,000 to 50,000 (including 10,000) | 50,000 to 100,000 (including 50,000) | More than 100,000 (including 100,000) |
| Number of people | 42 | 169 | 50 | 26 |

Table 2: Summary of criminal fine imposed by the natural person
3.4. The application of sentencing circumstances in the environmental pollution crime of soil field
As shown in Table 3 and Table 4, of the 89 valid cases, there are significantly more mitigating circumstances than aggravating circumstances. On the whole, the defendant had a good attitude to plead guilty, but the number of active payment of hazardous waste disposal and ecological restoration fee or active cooperation with relevant personnel to restore the ecological environment only accounts for about one-third of all cases.

Table 3: Summary of mitigating circumstances

| Circumstances                  | Specific circumstances                  | Number of cases |
|-------------------------------|----------------------------------------|-----------------|
| Statutory mitigating circumstances | Self-accusation                        | 57              |
|                               | Confession                             | 46              |
|                               | Meritorious performance                 | 7               |
| Consider mitigating circumstances | Voluntary plea of guilty                | 33              |
|                               | First and occasional offense            | 8               |
|                               | Voluntary surrender of illegal income or criminal fine | 15 |
|                               | Active payment of hazardous waste disposal and ecological restoration fee or active cooperation with relevant personnel to restore the ecological environment | 30 |

Table 4: Summary of aggravating circumstances

| Circumstances                  | Specific circumstances                  | Number of cases |
|-------------------------------|----------------------------------------|-----------------|
| Statutory aggravating circumstances | Recidivist                              | 6               |
| Consider aggravating circumstances | Previous conviction or misdemeanor       | 8               |

3.5. The application of the penal auxiliary measures in the environmental pollution crime of soil field
As shown in Table 5, of the 89 valid cases, the application of penal auxiliary measures was mainly focused on confiscatory auxiliary measures, with relatively few cases in which civil and educational auxiliary measures were allowed, especially in the three cases in which ecological remediation measures were taken. And the number of cases with administrative auxiliary measures was zero.

Table 5: Summary of aggravating circumstances

| Auxiliary measures             | Specific auxiliary measures                  | Number of cases |
|-------------------------------|----------------------------------------------|-----------------|
| Educational auxiliary measures | Apologize                                    | 6               |
| Administrative auxiliary measures | Not available                     | 0               |
| Civil auxiliary measures       | Compensation for tort damage from environmental pollution and related costs | 12             |
|                               | Take remedial measures                       | 3               |
| Confiscatory auxiliary measures | Refund of illegal profits                   | 32              |
|                               | Seizure of contraband and property used for criminal purposes | 47             |

4. Conclusion
From the above results and discussion, we can conclude that environmental pollution crime of soil field was mainly committed by the natural person; the term of fixed-term imprisonment and the amount of
criminal fine were low; the defendant had a good attitude to plead guilty; the application of penal auxiliary measures was mainly focused on confiscatory auxiliary measures. The reasonable approach to tackle these issues could be to raise the legislative range for the term of fixed-term imprisonment; adopt a limited system of criminal fine and increase the type of penalty for the crime committed by the entity; encourage defendants to actively pay the hazardous waste disposal and ecological restoration fee or actively cooperate with relevant personnel to restore ecological environment; extend the scope of application of penal auxiliary measures.

Acknowledgments
This research was funded by the project "Research on Empirical Investigation and Policy Improvement of Agricultural Non-point Source Pollution Behavior (Project No: xy2020031)" of Sichuan County Economic Development Research Center, a key research base of social science in Sichuan Province.

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