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# Research on the Choice of Structural Models for The Codification of China's Environmental Law

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KEYWORDS

*Environmental Law,*
*Codification,*
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ABSTRACT

On April 21, 2021, the announcement of the *2021 Legislative Work Plan of the Standing Committee of the National People's Congress* reignited discussions about the codification of environmental law. Against this backdrop, this paper adopts a comparative analysis method to examine the structural models of codification in the *Swedish Environmental Code*, the *French Environmental Code*, and the *German Environmental Code* (Expert Committee Draft, 1997). It aims to provide a reference for selecting a structural model for the codification of China's environmental law. In choosing the specific mode of environmental law codification, it is recommended to adopt the structural models used in Sweden, France, and Germany while retaining certain standalone laws. The codification should follow a logical structure of "General Provisions–Specific Provisions–Supplementary Provisions" and be organized with a hierarchical layout of "Parts–Chapters–Sections."

## 1. The Value of Structural Models for the Codification of Environmental Law From a National Objectives Perspective

In the 2021 Legislative Work Plan of the Standing Committee of the National People's Congress (approved in principle at the 78th Chairman's Meeting of the 13th National People's Congress Standing Committee on November 27, 2020, and amended at the 91st Chairman's Meeting on April 16, 2021), the codification of environmental law was included. Currently, there is a consensus in the field of environmental law to achieve systematic improvement through "moderate codification." However, the codification project is extensive, with the primary task being to determine the structural model.

A structural model refers to the organizational framework of a code, determining its chapter layout and the logical structure of its provisions. This directly reflects the scope of regulation within the code. Legislators must consider how to structure the code and incorporate or exclude existing environmental legislation (Li et al., 2019). Additionally, the choice of structural model and chapter arrangement embodies legislative techniques and reflects deeper legal traditions. This paper explores the selection of a structural model for China's environmental law codification.

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## 2. Comparative Study of Environmental Codes (Drafts) in Sweden, France, and Germany

Currently, many countries and regions worldwide have developed environmental codes or drafts, providing valuable research samples for this study. This paper selects the Swedish Environmental Code, the French Environmental Code, and the German Environmental Code (Draft by the Expert Committee, 1997) as research texts for analysis. The aim is to explore the logic behind the structural choices in the compilation of environmental codes (drafts) and their implications.

### *2.1. Structural Choices in the Swedish Environmental Code*

The Swedish Environmental Code has been in effect since 1998. It comprises seven chapters and adopts a 'general provisions-specific provisions' compilation structure, with three hierarchical levels ('part-chapter-section') for drafting its provisions. The distribution and content of its parts are presented in Table 1 (Zhu et al., 2017).

As seen in Table 1, the structure of this Code is generally organized along the environmental governance process, displaying a distinct process-oriented characteristic. Theoretically, the Code is obligation-centric and follows the overarching framework of 'obligation-regulation-remedy,' encompassing all actors involved in environmental protection matters. It also provides detailed explanations of the obligations of various actors.

Specifically, Parts 1 to 3 of the Code outline in detail the obligations of regulators and regulated entities in the environmental domain. Parts 4 to 6 refine the regulatory measures, including reviews, approvals, prohibitions, and sanctions. Finally, Part 7 explicitly addresses remedies for private and public interest damages resulting from violations.

Globally, the Swedish Environmental Code stands as a successful example of substantive codification and a prominent model of 'moderate' codification (Lv, 2020). It achieves 'relative openness and operability by relinquishing absolute rigor and certainty.' Its successful compilation has, to some extent, sparked a global wave of environmental code codification, providing a reference point for the structural choices in compiling China's Environmental Code.

### *2.2. Structural Choices in the French Environmental Code*

Unlike Sweden, which opted for substantive codification, France adopted a formal codification approach by dividing the codification of environmental law into two projects: the codification of laws related to the environment and the codification of administrative regulations related to the environment. As a result, the French Environmental Code includes two main sections: laws and administrative regulations. In 2000, the legislative section of the French Environmental Code was approved, and by 2007, the administrative regulations section was fully approved, marking the near completion of France's environmental law codification.

This parallel codification of laws and administrative regulations represents a distinctive approach in the global codification of environmental law. The unique codification model makes the French Environmental Code a comprehensive consolidation of the country's

**Table 1 | Content Structure of the Swedish Environmental Code**

| Part | Core Content |
|---|---|
| Part 1: General Provisions | Legislative objectives, scope of application, and general principles to be considered |
| Part 2: Nature Protection | Protection of conservation areas and species of flora and fauna |
| Part 3: Special Provisions on Specific Activities | Special rules for specific activities such as waterworks, mining, and genetic engineering |
| Part 4: Review of Cases and Matters | Review of cases and disputes, including the environmental court system |
| Part 5: Supervision, etc. | Measures to ensure the effective implementation of the Code |
| Part 6: Sanctions | Environmental crimes and the introduction of some new fee systems |
| Part 7: Compensation, etc. | Rules for compensation for damages caused by environmental harm |

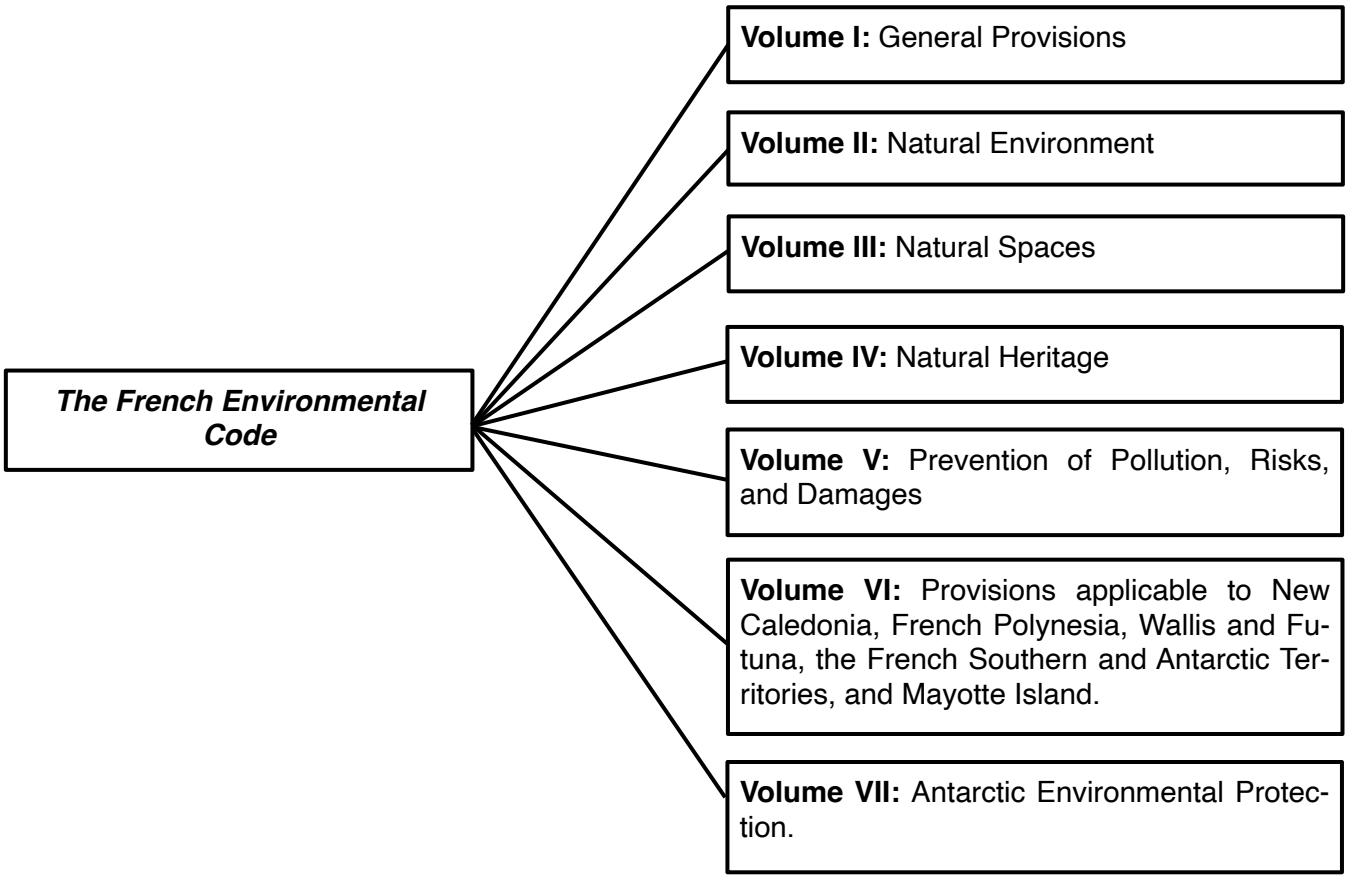


**Figure 1 | Structure of the French Environmental Code**

various laws and regulations related to environmental protection, rather than a substantive innovation in legal systems. Consequently, the French Environmental Code is an extensive compilation, with a vast content organized into seven volumes. Its provisions are hierarchically arranged by 'volume-title-chapter-section-subsection-article' (Mo et al., 2018).

From Figure 1, it is evident that the structure of the French Environmental Code is primarily element-driven. On one hand, aside from the first volume, which lists general provisions of broad applicability, and the sixth volume, which provides special provisions for different regions, the remaining five volumes are named after specific environmental elements. For example, Volume II, titled 'The Natural Environment,' comprises two titles:

1) 'Water, Aquatic Environments, and Marine Environments,' which consists of nine chapters. These chapters cover topics such as 'General Regime and Resource Management,' 'Planning,' 'Administrative and Financial Institutions,' 'Activities, Facilities, and Uses,' and 'Inspection and Penalties.' Specific regulations are also provided for 'Non-Public Rivers,' 'Marine Waters and Sea Routes,' as well as related matters like 'National Defense,' 'Marine Environment and Policy.'
2) 'Air and the Atmosphere,' also consisting of nine chapters, addresses topics such as 'Air Quality Monitoring and Public Communication,' 'Planning,' 'Emergency Measures,' 'Technical Measures,' and provisions regarding 'Finance and Taxation,' 'Inspection and Penalties,' 'Radioactive Pollution,' and 'Greenhouse Effects.'

From the above content, it is evident that Volume II comprehensively regulates environmental elements like water and air, incorporating all aspects relevant to these core elements that require legislative elevation.

On the other hand, environmental codes adopting an element-driven structure often share a characteristic: the obligations of relevant parties, regulatory mechanisms, and legal liabilities are typically detailed within the individual sections dedicated to specific environmental elements, rather than being consolidated in separate chapters. For example, both Volume II and Volume V of the French Environmental Code include administrative and criminal liabilities, as

well as procedural provisions for the protection of specific environmental elements. Volume II: The Natural Environment addresses river pollution in Chapter 6 of Title I and marine pollution in Chapter 8.

This structure highlights the French approach of integrating legal provisions with environmental elements, ensuring comprehensive coverage while maintaining specificity within each thematic section.

### *2.3. Structural Choices in the German Environmental Code (Draft)*

The codification of environmental law in Germany has been fraught with challenges. The two major attempts to codify environmental law failed due to various factors, including conflicts between federal and state powers, tensions between codification ideals and pluralistic democracy, and differing political agendas (Shen, 2019). Between 1994 and 2009, Germany issued four versions of environmental code drafts (Shi, 2020). Among them, the 1997 Expert Committee Draft (hereinafter referred to as the 'Draft') stood out for its substantive innovations. By revising numerous existing provisions, it became the blueprint for subsequent German environmental code drafts and is therefore more representative (Shen, 2018). This paper focuses on the Draft to analyze the structural framework adopted in the codification of the German Environmental Code.

The 'Draft' is divided into two main sections: 'General Provisions' and 'Specific Provisions', both of which follow a hierarchical structure of 'chapter-section-article.' The General Provisions consist of eight chapters, with their specific structure and content outlined in Figure 2.

From the perspective of chapter structure, the 'General Provisions' section of the Draft adopts a process-oriented framework organized around the themes of 'obligation setting, regulatory guidance, and participatory collaboration.'

In the 'Specific Provisions' section, the Draft comprises nine chapters, addressing various specific environmental elements, as outlined in Figure 3.

From Figure 3, it is evident that the structure of the Specific Provisions section of the Draft is clearly organized around environmental elements, as reflected in the chapter titles, which include elements such as soil, water, and waste. In terms of textual volume, the Specific Provisions section contains '531 articles', accounting for approximately '70%' of the entire code, although the content remains under the overarching guidance of the General Provisions.

It is noteworthy that the 'General Provisions' section of the Draft does not include a dedicated chapter explicitly addressing legal liability. Instead, legal liability is distributed across various chapters. Regarding 'administrative liability', specialized sections on 'administrative violations' can be found in Chapters 1, 4, 5, 6, and 8 of the General Provisions, as well as Chapters 10, 12, 13, and 16 of the Specific Provisions, including the section on 'transport facilities' in Chapter 14.

For 'civil liability', the Draft dedicates limited attention to the subject. The substantive and procedural norms for damage compensation are concentrated in the 'Liability and Guarantee Reserves' section, which precedes the 'Administrative Violations' section in Chapter 13. One possible reason for this design choice is the greater level of abstraction in the General Provisions. For example, Chapter 7 of the General Provisions provides general rules on the generation and access to environmental information. In contrast, Chapter 10 ('Soil Protection') of the Specific Provisions contains specific provisions regarding reporting obligations for activities likely to cause soil pollution and requirements for establishing a dedicated soil information system.

From existing practices, codification approaches often either place a dedicated 'Legal Liability' chapter in the General Provisions or introduce a separate section after the General and Specific Provisions to outline 'Legal Liability.' The fragmented design of legal liability in the Draft somewhat diminishes the effectiveness of using liability mechanisms to guide and deter violations throughout the environmental governance process. This suggests that China should conduct specialized research to strengthen the design of legal liability during the codification of its environmental law.

### *2.4. A Foundational Conclusion*

Based on the comparative analysis of the three foreign environmental codes (drafts) discussed above, three commonly used codification models for environmental law can be summarized:

1) The 'process-oriented' model adopted in the Swedish Environmental Code.
2) The 'element-oriented' model employed in the French Environmental Code.

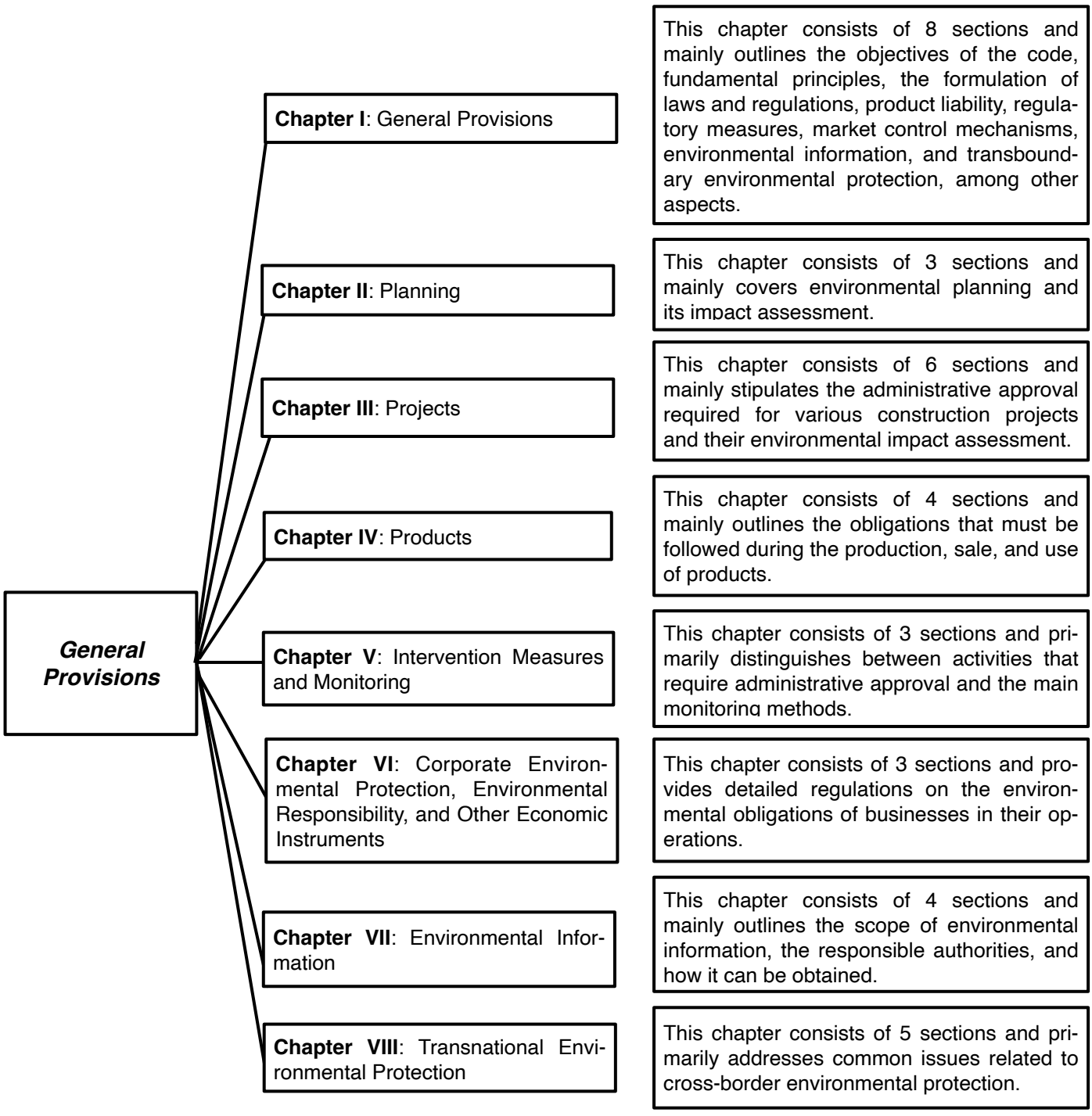


**Figure 2 | Structure of the General Provisions of the German Environmental Code (1997 Expert Committee Draft)**

3) The 'hybrid' model exemplified by the German Environmental Code (Draft).

## 3. Structuring the Codification of Environmental Law in China—A 'General Provisions–Specific Provisions–Supplementary Provisions' Framework

The codification of an environmental code in China should begin with a comprehensive integration of all existing standalone environmental laws and regulations, absorbing their relevant content into the code while simultaneously replacing those laws and regulations. This process would establish a new and cohesive environmental legal framework. Subsequently, based on the practical needs of the environmental code, certain standalone laws or regulations should be retained, modified, or even re-enacted to support this framework.

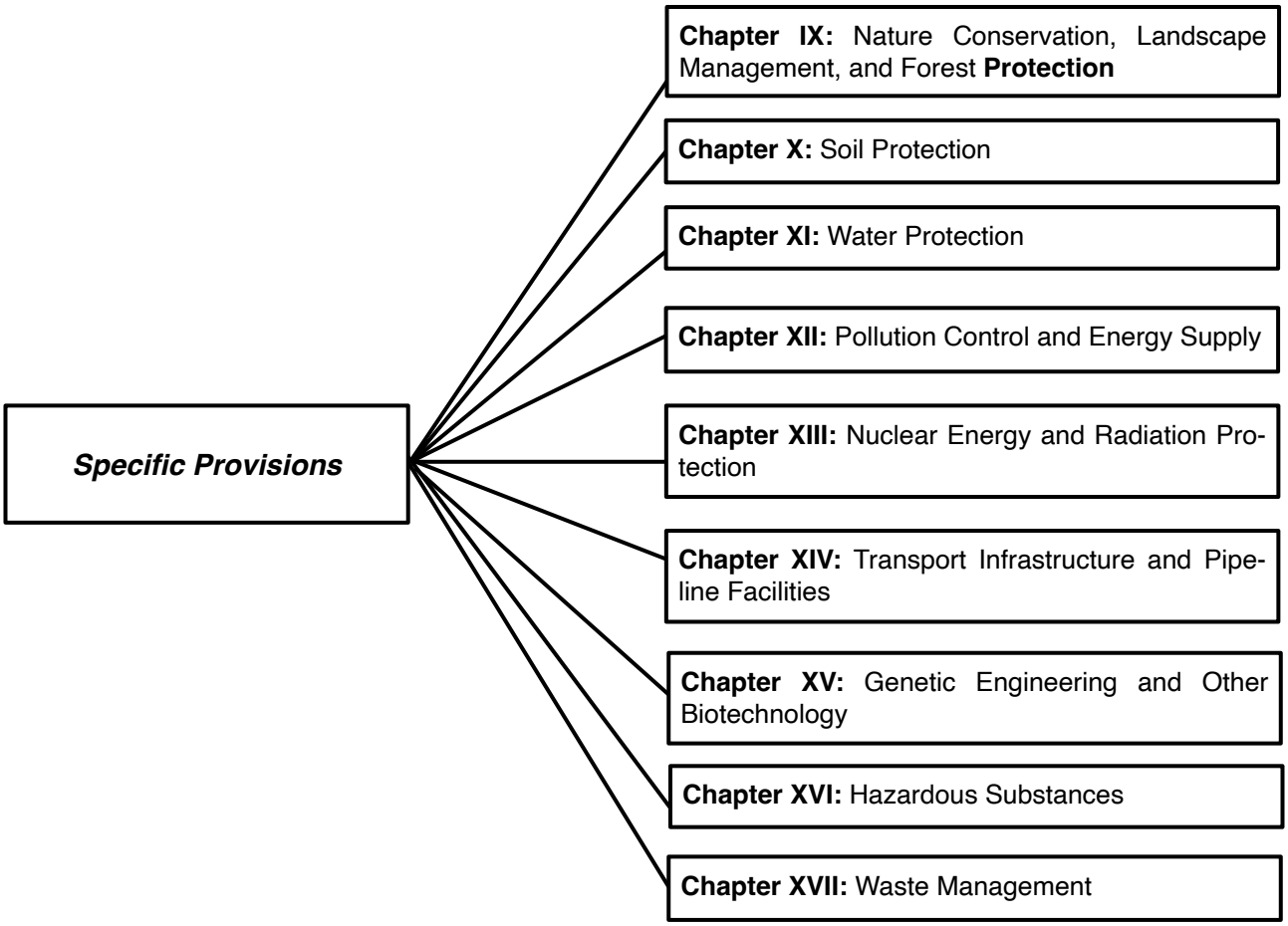


**Figure 3 | Structure of the Particular Provisions of the German Environmental Code (1997 Expert Committee Draft)**

Drawing from the codification practices of Sweden and France, China's approach to compiling an environmental code should follow specific principles to systematically filter, organize, extract, and synthesize existing environmental laws and regulations. By utilizing an appropriate structure, these elements can be combined into a coherent code. The initial motivation for codifying environmental law lies in the need to improve a country's environmental legal system. The arrangement of specific content and structure, however, must be guided by clear principles and overarching ideas.

From the global perspective of the evolution of environmental law, whether it is the Western path from judicial remedies' inadequacies to specialized environmental legislation and finally to civil law revisions, or China's trajectory from specialized environmental legislation to the enactment of civil law and ultimately to judicial remedies, the underlying changes reflect the shifts in environmental legislative thought.

Thus, the codification of China's environmental law should adhere to a sound guiding philosophy, localizing and innovatively applying international codification concepts to suit China's circumstances. This process should develop and implement forward-looking principles in environmental legislative thought. Specifically:

### *3.1. Fundamental Content of the General Provisions*

#### *3.1.1. Clarifying the Legislative Purpose and Spirit*

As a high-level option in the systemic development of environmental law, the codification and implementation of an environmental code inherently embody a nation's guiding legislative philosophy and legal values. In this context, the codification of environmental law fundamentally represents the affirmation of a country's environmental legislative thought and values. Sustainable development itself is a concept with significant openness, allowing for continuous enrichment and refinement. Its expansive connotation pro-

vides ample space for nations to derive guiding legislative philosophies for environmental law.

#### 3.1.2. Defining Subjects, Rights, and Obligations in Environmental Legal Relationships

The General Provisions should establish the framework for environmental protection within the value system defined by sustainable development goals and basic principles (Xia, 2008). This includes setting up an environmental governance system for comprehensive ecological management throughout all processes, defining the legal relationships among various stakeholders such as governments, enterprises, and society at large.

### 3.2. Fundamental Content of the Specific Provisions

To enhance the quality of environmental law codification, the scope of the environmental code's application must be carefully defined. When designing the framework and determining the content for the specific provisions, the following ideas are proposed:

#### 3.2.1. Sorting and Inclusion of Existing Pollution Prevention and Ecological Protection Laws

To improve the quality of the environmental code's compilation, it is necessary to systematically review and incorporate the existing pollution prevention and ecological protection laws. In the specific provisions, separate sections should be created for pollution prevention and ecological protection, as long-standing environmental legal practices have made pollution prevention and ecological protection core components of China's environmental law (Liu, 2020). Specifically, in the 'Pollution Prevention Section', the content of the existing 'Environmental Protection Law' related to pollution prevention should be retained, while including laws such as the 'Solid Waste Pollution Prevention Law', 'Soil Pollution Prevention Law', 'Air Pollution Prevention Law', 'Environmental Noise Pollution Prevention Law', and 'Water Pollution Prevention Law'.

In the 'Ecological Protection Section', laws such as the 'Wildlife Protection Law', 'Biosafety Law', 'Soil and Water Conservation Law', and 'Desertification Control Law' can be included.

However, it should be noted that not all laws related to pollution prevention and ecological protection can be incorporated into the environmental code.

On one hand, some pollutants, although falling under environmental protection, have specific characteristics (such as nuclear pollution), making them unsuitable for inclusion in the future environmental code's pollution prevention section. The legal treatment of such pollutants must take into account not only environmental factors but also energy security and social safety.

On the other hand, laws such as the 'Water Law', 'Grassland Law', and 'Forest Law' are closely linked to both environmental protection and natural resource management. Therefore, the contents of these laws should be selectively reviewed, and only those provisions specifically related to environmental protection should be included in the environmental code.

#### 3.2.2. Exclusion of Natural Resource and Energy Development Laws in the Short Term

In the short term, the environmental code's provisions should not include laws that solely focus on natural resource and energy development, such as the 'Coal Law', 'Petroleum Law', and 'Fisheries Law', which are more industry-specific. The reason for this is that, given China's current social situation, pollution prevention and ecological protection will remain the central focus of environmental governance for a considerable period. Therefore, these areas will form the core and foundation of the future environmental code. While there are legal measures related to pollution prevention and ecological protection within the fields of natural resources and energy, these regulations mainly serve as specialized applications of environmental protection measures in industrial sectors, with a greater emphasis on establishing legal frameworks for resource and energy development.

#### 3.2.3. Creation of a Separate Section for Low-Carbon Development

The future environmental code should have a separate section for low-carbon development, which would cover areas related to green and low-carbon development that are not included in the pollution prevention and ecological protection sections. This would reflect the nation's response to the carbon neutrality and carbon peak strategies, highlighting the code's relevance to contemporary values. Specifically, laws such as the 'Renewable Energy Law', 'Circular Economy Promotion Law', and 'Clean Production Promotion Law' can be incorporated into the low-carbon development section.

#### 3.2.4. Creation of a Separate Section on Legal Responsibility

To reflect the completeness of the environmental governance process, the future environmental code of China should include a separate section on legal responsibility, which could be titled 'Ecological Environmental Responsibility.' In fact, every legal norm requires the support of legal responsibility for deterrence and guidance, and the environmental code is no exception. Regarding administrative responsibility in the environmental field, it is suggested that in the future compilation of the environmental code, basic common provisions scattered across various laws, such as the 'Environmental Protection Law', 'Water Pollution Prevention Law', 'Air Pollution Prevention Law', and 'Wildlife Protection Law', should be compiled and included in the 'Ecological Environmental Responsibility' section. This section should be based on fundamental rules and subdivided into three parts: 'Environmental Administrative Penalties,' 'Environmental Administrative Sanctions,' and 'Remedies for Environmental Administrative Penalties,' clearly specifying the implementation body, jurisdiction, procedures, and remedial measures for environmental administrative penalties.

At the same time, in the provisions on 'Pollution Prevention,' 'Ecological Protection,' and 'Low-Carbon Development,' specific administrative responsibilities for these areas should be addressed. Regarding criminal responsibility, 'the coordination between the environmental code and the Criminal Law must consider the uniqueness of the criminal legal mechanism. In China's single-track legislative model, environmental crimes are stipulated in the Criminal Code and its amendments, with environmental legislation making only subsidiary provisions.' This viewpoint is endorsed, meaning that the environmental code does not need to provide special substantive and procedural provisions on environmental criminal responsibility, but should instead make subsidiary provisions in alignment with criminal legislative traditions.

As for civil responsibility, since civil law already contains provisions regarding environmental civil liability, there needs to be coordination between the environmental code and civil law content.

### 3.3. Fundamental Content of the Supplementary Provisions

In the overall structure of the code, the supplementary provisions serve as auxiliary content to the general and specific provisions. Their core function is to provide supplementary explanations regarding the composition and implementation of the code. The supplementary provisions of China's future environmental code should encompass three main areas:

#### 3.3.1. Integration With International Treaties

The environmental code should establish clear mechanisms for harmonizing with various international treaties related to environmental issues that China has ratified. It is essential to balance domestic law and international law, ensuring that China's environmental legislation complies with international standards while addressing the unique needs of domestic environmental governance.

#### 3.3.2. Coordination With Other Branches of Law

The environmental code must also coordinate and complement other branches of law, particularly the 'Civil Code', 'Criminal Law', and other sector-specific laws. This will ensure that the environmental code does not create conflicts with existing legal frameworks but rather integrates seamlessly into the broader legal system. By establishing clear connections and distinctions between the environmental code and other laws, it will facilitate consistent enforcement and application.

#### 3.3.3. Coordination Within Environmental Law

Finally, the supplementary provisions should clarify how the environmental code coexists with environmental laws that are not included in the code. Some specialized environmental laws might not be directly integrated into the code but will still remain essential for specific areas of environmental regulation. The supplementary provisions should outline how these laws will interact with the new environmental code, ensuring a complementary relationship that maintains the coherence and comprehensiveness of the environmental legal framework.

These supplementary provisions will play a critical role in ensuring the flexibility and adaptability of the environmental code, enabling it to work effectively within both the domestic legal system and the broader international legal context.

## 4. Conclusion

In the author's view, when selecting a specific model for the codification of environmental law, it is

essential to draw upon the structural frameworks utilized in the environmental codes (or drafts) of Sweden, France, and Germany. At the same time, it is advisable to appropriately retain standalone laws during the codification process. The codification should follow a logical structure of "General Provisions–Specific Provisions–Supplementary Provisions" and adopt a "Book–Chapter–Section" format for the organizational layout.

It is important to note that codification is not an end in itself but rather a sophisticated option among many approaches to improving the legal system. Furthermore, the inherent particularities of environmental law mean that codification is not the sole means of enhancing the environmental legal system. Moving forward, issues related to the codification of environmental law must be considered in conjunction with evolving practical circumstances.

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