

# 德国景观规划的价值逻辑、 法律框架及启示

## VALUES AND LEGAL FRAMEWORK OF GERMAN LANDSCAPE PLANNING AND THE IMPLICATIONS

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### 摘要

德国景观规划被视为国土空间规划管理体系的一个成功案例。本文通过梳理德国景观规划的历史发展脉络、价值逻辑及法律框架，将其实践经验的基本逻辑总结为：1) 重视在历史文化传统中寻找规划的伦理依据；2) 景观整体论结合社会发展需求以完善规划对象的界定；3) 以成本-效益最优化为导向制定规划措施；4) 基于辅助性原则和景观过程尺度效应明确规划层级划分。以上逻辑在德国景观规划的法律依据中得到充分贯彻，保障了其实施效率。其后，本文结合具体的国情背景，建议中国国土空间规划进一步推动空间资源使用权、收益权与所有权的剥离，构建良性的公私利益博弈与制衡机制，提升规划的公平性；在完善国土空间规划技术标准体系的基础上，重点强化乡镇基层国土空间规划中的公众参与力度和效率，构建国土空间规划的决策参与机制；基于“五级三类”规划层级架构，在确立上级规划权威性、保证规划效率的同时，通过生态系统服务等生态公共产品的有偿供给和补偿，构建跨层级和跨区域的规划协调机制。

### 关键词

国土空间规划；景观规划；价值逻辑；法律框架；比较分析；德国

### ABSTRACT

German landscape planning has gathered many experiences and become an outstandingly working system of the nation's territorial spatial planning. By reviewing its history, values, and legal framework, this paper summarizes the experience of German landscape planning and draws conclusions for its success into four logics: 1) the normative basis for the evaluation and deduction of objectives is transparent and stems primarily from ethical and cultural values; 2) social development needs are considered in the overall spatial planning and local participation processes; 3) planning methods include ways to effective implementation; and 4) the principle of subsidiary and the scale effect of landscape processes are considered. These logics are reflected and guaranteed by the German legislation. With a profound understanding of China's reality, the authors argue that China needs more efforts to further separate the right to use and the revenues from the ownership of the spatial resources, and build a balancing mechanism for public-private interest negotiation to ensure the fairness of planning; In addition to enriching the evaluation standards and methodological standards for territorial spatial planning, a greater attention should be given to enhancing the effectiveness and efficiency of public participation at lower planning levels by establishing respective routines of bottom up initiatives and processes; Within the "Five-Level and Three-Type Framework," China should introduce cross-level and cross-regional planning coordination mechanism that facilitates the paid supply and compensation mechanism of ecological public goods like ecosystem services.

### KEYWORDS

Territorial Spatial Planning; Landscape Planning; Values; Legal Framework; Comparative Analysis; Germany

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① “五级”指国家、省、地、市、区县、乡镇；“三类”包括总体规划、详细规划、专项规划。

② 这里的“园林”泛指所有以观赏、娱乐为主要目的的园林景观，与生产性景观相对应。

① “Five-Level” planning refers to the planning at national, provincial, city, county, and village levels; “Three-Type” plans refer to master plan, regulatory plan, and special plan.

② Gardens here are created for ornamental or recreational, instead of productive, purposes.

## 1 引言

因其独具特色的历史沿革和价值取向，以及多层次、多样化的法律架构和技术组织，有着近百年发展历史的德国景观规划（Landscapeplan）在欧洲甚至世界范围内都被视作一个独特而成功的规划体系案例。当代德国景观规划在整合与分享国土空间与生态环境信息、分析诊断景观现状功能、预测景观发展动向、确定不同层级景观发展目标、协调相关专项规划、明确空间管控措施等方面已经形成一套体系完备、兼顾效率与公平的政策法规与技术规范体系。同时，由于德国联邦制的政体设计，各联邦州（Bundesland）的实践使得景观规划在制度安排、流程内容、技术标准和措施方案等方面均拥有各自特点。

可以想见，对德国的景观规划体系进行全景式的描述和解析将是一项有益且复杂的工作。基于中国的社会经济制度特点，本文旨在对德国景观规划的演化历程、价值逻辑和法律框架进行系统梳理，以期为中国国土空间规划体系构建过程中遇到的深层次问题提供解决思路，从而促进中国国土空间规划的体系构建与完善。相关问题包括：在“多规合一”与“一张蓝图干到底”等集权式规划理念指引下，如何实现利益的跨领域博弈与制衡，以避免决策者个人意志干扰的偶然性？如何在“五级三类”<sup>①</sup>的规划体系框架内，构建生态环境议题的跨区域协调和补偿制度，实现国土空间资源开发的跨区域配置和优化？

## 2 德国景观规划溯源

作为法定规划，德国景观规划有着近百年的发展历史，而其理念的萌芽则可上溯至18世纪。18世纪下半叶，年轻的利奥波特三世·弗里德里希·弗朗茨·冯·安哈特-德绍在其封地德绍开展了景观实践，首次将之前仅适用于园林<sup>②</sup>的景观规划、营造与管理体系统延伸覆盖到所有用地类型上。随后的40年间，以“将美观与实用结合”（Das Schöne mit dem Nützlichen verbinden）为指导思想，他对德绍的水利设施、农

## 1 Introduction

With a unique evolution history and value orientation, as well as a diverse hierarchical legal framework and technical organization, German landscape planning that has developed for nearly 100 years is taken as a distinctive case of a successful planning system in Europe and across the world. Contemporary German landscape planning is institutionally facilitated by its complete policy and technical system that pursues efficiency and justice. The system integrates and shares information on territorial space and environment, analyzes and diagnoses the status quo of landscapes, predicts the development trends of landscapes, determines the development goals at different levels, coordinates specialized environmental plans, and proposes space regulation measures, etc. Moreover, the federal system of the country allows the diversity in institutional arrangement, process, technical standard, and implementation scheme of landscape planning.

Considering the diverse and longstanding experiences of German landscape planning, it is worthwhile to make such information productive for the Chinese situation. With an understanding of the characteristics of China's social and economic system, this paper examines the history, values, and legal framework of German landscape planning in hope of inspiring the adaptation of China's territorial spatial planning system to the new demands of the Ecological Civilization Era, by identifying primary reasons for current problems and the outline and direction for systematic reforms. Currently, we are facing several challenges, such as how to balance the interests of different regions under the centralized planning ideas, how to avoid illegitimate or disproportionate interventions of decision-makers, and how to design a cross-regional coordination and compensation system on ecological and environmental issues within the national “Five-Level and Three-Type”<sup>①</sup> planning framework for a more efficient allocation and optimization of territorial spatial resources. The answers to these questions would help establish and improve the territorial planning system in China.

## 2 Origin of German Landscape Planning

German landscape planning has a longstanding history. The idea of landscape planning originated in the 18th century. In the second half of the 18th century, the young Leopold III. Friedrich Franz von Anhalt-Dessau pioneered to expand the application scope of landscape planning, construction, and management system from gardens<sup>②</sup> to all land types in Dessau. In four

田果园、林荫路网及公园体系等进行了系统的规划建设，使整个地区的社会、政治、经济、文化和城市风貌等得到了迅速提升<sup>[1][2]</sup>。至少在欧洲，这是景观思维应用于区域综合规划以全面提升空间品质的最早案例之一。2000年，其代表性园林“德绍沃里茨的园林王国”（Dessau Wörlitzer Gartenreich）被纳入世界文化遗产名录（图1）。尽管德绍的景观规划主要以美学原则为依据，但其采用土地利用管控及景观规划的手段提升区域景观整体品质的景观塑造理念，对其后德国景观规划价值逻辑与体系框架的形成影响深远。

此后不久，基于类似社会实践的累积，亚历山大·冯·洪堡重新诠释了始于中世纪的“景观”（古日耳曼语为Lantschaft，含义近似于英语region）概念并赋予其更为科学的界定：景观是地球上某一区域的总体特征<sup>[3]</sup>。这种景观整体观为之后德国景观规划理解和强调景观功能的多样性和复合性以及规划的系统性提供了基本科学范式。19世纪下半叶，在早期景观理论实践与理性思想启蒙相结合的基础上，形成了影响广泛的德国“国土美化”（Landesverschönerung）运动。该运动进一步促使景观规划管理的原理延伸到农业生产、公共卫生和社会管理等领域，并在促进经济增长方面呈现出超乎预期的积极影响，继而成为德国景观规划的基本逻辑之一<sup>[4]</sup>。

decades, guided by the idea of “combining the beauty with the usage,” he systematically planned water utilities, farmlands and orchards, road network, and parks system. His efforts led to a great quality increase in the society, politics, economy, culture, and cityscape across the region<sup>[1][2]</sup>. This is one of the first cases where landscape thinking was applied in regional planning to enhance spatial quality in Europe. The Dessau Wörlitzer Gartenreich (Fig. 1), one of his representative piece of work, was included in the World Cultural Heritage List in 2000. The landscape planning in Dessau was basically guided by aesthetic principles, but the idea to enhance the overall regional landscape quality through land management and landscape planning had profoundly influenced the values and the logical framework establishment of German landscape planning.

Later, inspired by similar social practices, Alexander von Humboldt redefined the medieval concept of landscape into a scientific sphere by holding that landscape was the total character of a region of the earth<sup>[3]</sup>. Such an idea offered a scientific significance for German landscape planning in understanding and highlighting the diversity and complexity of landscape functions, as well as the systematic thinking of planning. In the second half of the 19th century, the introduction of rational enlightenment into early landscape theories and practices gave rise to the influential Landesverschönerung Movement in Germany. The movement further promoted the application of landscape planning and management in agriculture, public health, and social governance, and boosted the economic growth unprecedentedly, becoming a fundamental logic of German landscape planning<sup>[4]</sup>.

1. “德绍沃里茨的园林王国”将景观规划、塑造与管理的理念由园林（图1-1）延伸到园林外的日常景观中（图1-2）。

1. The application scope of the ideas of landscape planning, construction, and management was expanded from gardens (Fig. 1-1) to all land types (Fig. 1-2) in the Dessau Wörlitzer Gartenreich.



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1-1



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1-2

③ 无论是在德语还是其他语言环境中，“自然”与“景观”都是完全不同的概念，德国法律亦对二者进行了明确区分。简单来说，自然是相对于人类文明的概念（某些解释也将文明纳入自然的范畴），景观则是人类认知世界（包括自然和文明双重成分）的一种方式。

③ In all languages, "nature" and "landscape" are different concepts. To put it simply, the concept of "nature" is in contrast to the idea of human civilization (by some interpretations, civilization is part of nature); and "landscapes" are a kind of reflections of how human beings perceive the world (that is shaped by nature and human civilizations).

19世纪末，相对于技术文明，逐渐觉醒的自然保护意识促使景观规划在德国迅速承担起“自然代言人”的角色，并于1902年首次写进普鲁士帝国的法律。其立法目的在于防止德国优秀景观在特定地区的进一步退化。在纳粹德国时期，通过景观规划手段实现自然保护（Naturschutz）和景观管理（Landschaftspflege）的做法被写进德国的第一部自然保护法——《帝国自然保护法》（Reichsnaturschutzgesetz），并在纳粹德国本土及其所占领的地区广泛推行。相应的政府机构“景观检察官”（Landschaftsanwalt）得以成立，以在技术文明的扩张需求中代表自然及景观<sup>③</sup>的利益参与博弈<sup>[1]</sup>。

第二次世界大战后，原西德政府基本继承了既有的景观规划体系，并在各联邦州进行了多样化的方法探索和实践尝试。在20世纪六七十年代日益严重的环境问题和逐渐觉醒的环保意识的共同推动下，1976年，《帝国自然保护法》被《联邦自然保护法》（Bundesnaturschutzgesetz）所取代。该法案将景观规划涉及的领域从生物资源要素拓展至自然环境要素，如水、土壤、空气等。至此，德国景观规划确定了其作为自然保护专项规划和综合性生态环境规划的双重角色，并成为平行于空间规划（Raumordnung）及农业规划、水系规划等行业/专项规划（Sectorplan / Fachplan）的一类规划，是旨在综合性解决生态环境问题及优化人-地关系的唯一基础性法定规划<sup>[1][5]</sup>。

由以上对德国景观规划发展历程的简要回溯可以窥见其核心价值和基本逻辑的形成过程，也有助于丰富对于德国景观规划中“景观”概念的来源和内涵的理解<sup>[4]</sup>。经过200多年的演化，德国景观规划所涉及的领域已不再局限于其初期实践所关注的人居环境美化和景观优化，同时也有别于通常意义的环境规划或生态规划。德国景观规划已经成为一种包含地理学、生态学、环境科学、社会科学、环境美学，以及空间技术等基础理论与技术应用的综合性空间规划<sup>[6]</sup>。

### 3 德国景观规划的价值逻辑

为了回答关于自然保护与景观管理的关键基本问题——例如，为什么进行保护和管理？保护和管理的对象是什么？如何进行保护和管理？谁来承担保护与管理义务？——有必要梳理景观规划所涉及的纷

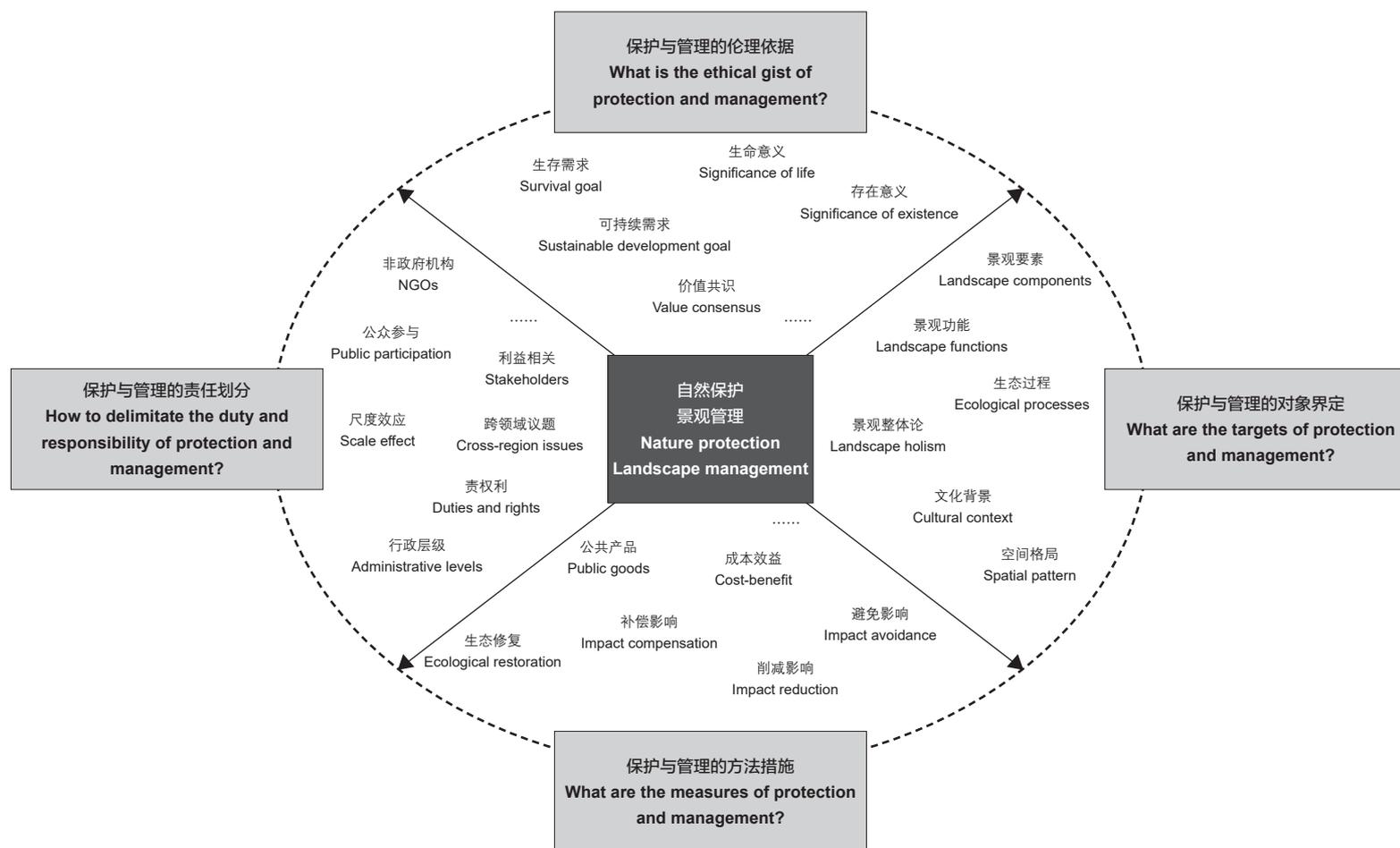
In the late 19th century, along with the rising awareness of nature protection, landscape planning was expected to act as a “spokesperson of the nature” and became part of the laws of Prussia in 1902 for the first time to prevent deterioration of the outstanding landscapes in certain areas in Germany. During the era of Nazi Germany, the Imperial Nature Conservation Act, the first nature protection law of Germany, mandated the nature protection and landscape management across the Nazi occupied territory. To guarantee the interests of nature and landscapes<sup>③</sup>, Landschaftsanwaelt was established<sup>[1]</sup>.

After World War II, West Germany gathered experiences with various methods and practices of landscape planning across the federation. During the 1960s and 1970s, aggravating environmental issues and rising environmental awareness propelled the country to replace the Imperial Nature Conservation Act with the Federal Nature Conservation Act in 1976, according to which landscape planning covered not only biodiversity (species and habitats) but all natural resources, such as water, soil, and air. Since then, German landscape planning has strengthened its ecosystem-oriented approach in order to promote efficient measures for improving the overall landscape functions or ecosystem services. This made landscape planning the ecological counterpart of spatial planning, both being performed on the top planning levels and synchronized as much as possible, with a goal to address all kinds of ecological issues in context and to harmonize human-land relationship. To this end, landscape planning has to consider not only spatial planning objectives but also the information of environmentally relevant Sectorplan / Fachplan, such as agricultural planning and river network planning, and vice versa<sup>[1][5]</sup>.

Reviewing the evolution of the German landscape planning helps shape a basic understanding about its core values and basic logic, as well as about the origin and connotations of the term “landscape” in the German landscape planning<sup>[4]</sup>. After developing over two centuries, the scope of German landscape planning has gone beyond beautifying human settlement and the improvement of landscapes. At the same time, different from the conventional environmental or ecological planning, German landscape planning has been considered a comprehensive plan that covers basic theories and technology applications of Geography, Ecology, Environmental Sciences, Social Sciences, Environmental Aesthetics, and new spatial technologies<sup>[6]</sup>.

### 3 Values of German Landscape Planning

To answer several basic questions (why, what, who, and how) about nature protection and landscape management, it



2. 德国景观规划的基本目的（深灰部分）、研究范畴（虚线范围）与关键问题（浅灰部分）。
2. Goals (dark grey), research interests (within the dashed lines), and basic questions (light grey) in German landscape planning.

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繁复杂的研究范畴（图2），并进一步探讨德国景观规划体系价值逻辑所蕴含的几个假设前提。

首先，德国自然保护与景观管理的伦理依据缘于一个基本认识：人类的生存依赖于自然，而自然的演化不依赖于人类。即，自然与景观被同时视为人类文明发展的支撑资源和限制条件。其对文明进程的支撑能力，即景观功能（Landschaftsfunktion），必须通过对技术文明负面影响的有意识管控，才可以借助自然演化的自我更新能力得到维持或改善。

由此，限制技术文明、实施景观管理的伦理依据可以归纳为两点：一是人类对自然的依赖，可分为人类个体或群体的现时生存对自然的依赖（生存的需求），以及人类种群繁衍对自然的依赖（可持续性的需求）。二是自然所蕴含的自在意义，既包括所有生命体所具有的普遍意义（生命的意义），也包括由生命体与非生命环境共同构成的自然整体所具有的意义（存在的意义）。

is necessary to sort out the rich research interests of landscape planning (Fig. 2) and to examine the hypotheses behind the values of the system of German landscape planning.

To begin with, the ethical gist of nature protection and landscape management in Germany is that nature and landscapes are both the resources and the limitations to the development of society. However, the capacity of landscape functions supporting civilization cannot be sustained or improved through the self-renewal of nature unless the negative impact of technological civilization is controlled.

Therefore, the ethical gist of the statement that human must restrain the technological civilization and practice landscape management is built on two levels of values. One is human's reliance on nature which includes human individuals' or groups' period survival (survival goal) and human species' long-term reproduction (sustainable development goal). The other is the significance of nature's existence, not only to individual lives but also for the nature itself formed by living organisms and the whole environment.

景观规划所依据的伦理学逻辑层级决定了规划所采用的价值评价标准。就目前而言，德国的绝大多数景观规划，包括《联邦自然保护法》本身，采用的都是可持续性原则。而对于生命意义的映射也偶尔体现在景观规划个案或个别专项规划（如特殊物种的保护规划）中。上述价值逻辑在具体的景观规划实践中得以落地体现。

其次，景观作为一个整体，其结构的优化和功能的提升必然是系统性和整体性的。在具体规划中，整体性逻辑反映在景观系统边界界定、景观现状诊断、景观功能评估和景观发展目标设定等各个环节。即，景观的任何功能都受到众多景观构成要素（如气候、岩层、土壤、植被、人类活动等）的共同影响，任何为提升某项功能而实施的干预都将不可避免地对景观各相关构成要素进行调整。同时，各项功能的提升（如供水功能的提升）都必须与其他功能目标（如气候保护、土壤改良、用地变更、产业转型等）相互协调。此外，德国景观规划认为人类的文化模式和行为能力也是景观的构成要素，是景观整体性的一种体现。因此，文化因素（如技术能力、制度特征、审美偏好等）和公众参与在德国景观规划中就显得尤为重要。

再次，基于对某些自然生态过程的不可逆性和生态修复社会经济成本巨大的认识，德国景观规划对技术文明负面影响的管控在逻辑递进的意义上呈现为：避免、削减和消除（或补偿）。所谓避免，即自然和景观有权在不受技术文明影响的情况下自然演化，以实现其功能的提升和价值的增值。在文明存续需求的主导下且当其影响无法彻底避免时，必须采取措施以便削减该影响的范围和强度，并采取修复与补偿措施来消除或弥补自然和景观功能与价值的损失，同时应当遵循就地补偿优先原则，在就地补偿难以实现时可考虑采用异地补偿。

最后，辅助性原则最早源于社会学和经济学理论，强调所有社会结构存在的目的在于实现个体利益的最大化，故而主张社会责任和权力应下放至最低社会层级，并认为不符合该原则的集权都是不公

The ethical logic behind a landscape plan determines the value of planning and to a certain degree the deduction of objectives. The Federal Nature Conservation Act and other legal norms reflect these values and most of them are very much in line with the sustainable principle. The significance of nature's existence is substantiated with a few of landscape or special planning cases (e.g., on the protection of certain species). In landscape planning, these norms are downscaled to real spatial landscapes and by that made concrete and spatially specific.

Moreover, the structural optimization and enhancement of landscape functions should be systematic and holistic. In individual cases, the holistic logic can be found in the boundary identification and the diagnosis of the status quo of landscapes, the assessment of landscape functions, and the formulation of landscape development goals, implying that every landscape function is defined by many components of the landscape system. The enhancement of one function associates with the adjustment of all landscape components (such as climate, rock stratum, soil, plantation, aesthetically effective features of the landscape and human activities). Meanwhile, the enhancement of one function (such as the water supply function, which many have priority in certain cases) should be compatible and coordinated with the enhancement of other functions (such as climate protection, soil amelioration, land use improvement, and industrial transformation). Implementation conditions are also taken into consideration, when proposing objectives and measures. In this sense, cultural components (such as technological capacity, institutional properties, and aesthetic preferences) and public participation are of particular importance in German landscape planning.

Also, in light of the irreversibility of several ecological processes and the huge social and economic costs of ecological restoration, German landscape planning regulates the negative impact of the technological civilization through three progressive approaches, namely avoidance, reduction, and elimination (or compensation). With avoidance, the nature and landscape would be not impacted by the technological civilization and evolve and improve on their own in functions and values. When the impact of civilization is inevitable, measures must be taken to reduce impact scope and intensity and to eliminate or compensate the function and value loss of nature and landscape incurred by the lasting impact, where remote compensation is recommended only if practicing on-site compensation is impossible.

Lastly, the principle of subsidiary, adopted from Sociology and Economics, is about addressing problems on the right planning level. It demands that every planning issue should be competently dealt with on the lowest spatial / decision

平的<sup>[7][8]</sup>。基于该原则以及景观过程的尺度效应，德国景观规划认为自然与景观功能的受益人应与功能保护的责任人一致，而景观规划的责任层级应与自然和景观过程和功能的时空尺度相对应。自然保护与景观管理责、权、利的统一以及充分的公众参与是保证规划措施有效执行的基础。

## 4 德国景观规划的法律框架

德国《联邦自然保护法》自1976年颁布以来几经修改，于2010年进行了最新修订<sup>[9]</sup>。其中，该法案第二章对景观规划做了框架性规定。通过审视其基本框架，可以清晰呈现上述价值逻辑在法律层面的映射。

### 4.1 规划目的与保护对象

《联邦自然保护法》实施自然保护与景观管理所依据的价值逻辑是自然与景观的自身价值及其保证当代和未来世代人类生存与健康的实用价值（可持续性原则）。自然与景观的基本价值体现可概括为生物多样性、自然资源可持续性和景观审美与休憩（第1条）。以上价值取向构成了德国景观规划对景观功能实施空间评价和制定景观发展目标的基本框架。

《联邦自然保护法》对景观规划的目的进行了规定（第8条）：作为一种预防性规划，在不同空间尺度上细化自然保护与景观管理的目标，以及实现这些目标所需的措施。其具体任务表述为：明确各规划区域的自然保护与景观管理的目标，在兼顾对规划区域内自然与景观可能产生影响的其他规划与行政程序的基础上，确定、描述和解释达成上述目标的相应要求和措施（第9条第1款）。

该法案规定景观规划在生物多样性方面的保护目标包括（第1条第2款）：1）保护野生动植物种群及其栖息地并保证其迁移和栖居的可

level which is accountable for the consequences arising from planning decisions. Concentration of power that is against this principle is considered unfair<sup>[7][8]</sup>. Based on this principle and the different spatial expansions of landscape features and processes, German landscape planning advocates that the beneficiaries of the functions of nature and landscape should shoulder the responsibilities to corresponding protection. The responsibility levels in landscape planning should be consistent with the temporal-spatial scale of processes and functions of the nature and landscape. The consistency among the responsibilities, power, and benefits of nature protection and landscape management as well as broad public participation is fundamentally important to ensure the efficient implementation of planning measures.

## 4 Legal Framework of German Landscape Planning

The Federal Nature Conservation Act has been amended several times after being promulgated in 1976. The latest amendment was made in 2010<sup>[9]</sup>. The second section makes overarching stipulation on landscape planning. The legal framework of the Act is reflective of the values discussed above.

### 4.1 Purposes and Protection Targets of Planning

The values of the Federal Nature Conservation Act lie in the inherent value the nature and landscape and the practical value (sustainable principle) to human beings for the survival and health of the current and future generations. The basic values of the nature and landscape reflect in biodiversity, sustainability of using natural resources, and landscape aesthetics and recreational services (Article 1). These values constitute the basic framework for spatial evaluation of landscape functions and formulation of landscape development goals in German landscape planning.

As stipulated by Article 8 of the Act, the purpose of landscape planning is to formulate particular objectives of nature protection and landscape management at different spatial scales as well as the measures that should be taken to. To be specific, landscape planning should determine the objectives of nature protection and landscape management of the targeted areas and set up and specify the measures for implementation, with the possible impact of other planning works and administrative processes on the nature and landscape taken into consideration (Item 1, Article 9).

The Act stipulates three protection objects in biodiversity protection (Item 2, Article 1), namely 1) to protect the wildlife and their habitats and ensure their immigration and settlement possibilities; 2) to reduce the risks faced by wildlife and natural ecosystems; and 3) to maintain the geo-spatial structures and the

能性；2) 减少野生动植物与自然生态系统所面临的风险；3) 维持自然生境的地理空间结构及其演化过程。

该法案要求景观规划在自然资源可持续性保护方面应强调(第1条第3款)：1) 特殊功能区的识别与保护；2) 土壤功能的保护与恢复；3) 海洋与内陆水体自净与自然演化能力的保护及其蓄洪防灾功能的自然提升途径；4) 调节气候与空气净化功能的提升；5) 野生生物群落保护(作为自然资源构成要素)；6) 自然生态系统形成与演化所需空间与时间的划定。

就景观审美与休憩保障而言，该法案规定景观规划应从景观多样性、景观特有性、景观审美及其休憩价值出发，重点突出自然及历史文化景观的保护，以及居住区开放空间与休憩景观的维护(第1条第4款)。

## 4.2 规划内容与层级

针对以上规划要点，德国景观规划需要明确以下主要内容(第9条第3款)：1) 自然与景观的当前与预期状态；2) 自然保护与景观管理的具体目标分解；3) 以上述具体目标为基准，对自然与景观当前与预期状态的评估和潜在冲突的识别；4) 实现自然保护与景观管理目标所需的措施(重点包括：避免、削减和消除/补偿负面影响的相关措施；自然保护区划定；补偿措施适宜区划定；生境网络构建与保护；土壤、水体、空气、气候保护与改善；自然与景观多样性、特有性、审美及休憩价值维护与提升；居住区开放空间维护与提升)。

由其内容设定可以看出，德国景观规划是一种以生态系统观为指导、强调空间功能复合、跨学科领域整合环境要素的综合性生态环境空间规划。而正是因为其所具有的空间规划属性，德国相关领域就不同空间尺度、不同行政层级如何协调实施景观规划展开了广泛讨论和探索。这种讨论的法律背景源自《联邦自然保护法》的框架性规定(第10、11条)：各联邦州应编制景观纲要(Landschaftsprogramm)，联邦州的不同区域应编制景观框架规划(Landschaftsrahmplan)；而在城市及以下层级，是否编制景观规划及最低层级的开放空间规划(Grünordnungsplan)则由地方当局根据对当地环境问题严重程度以

evolution process of natural habitats.

With regard to the protection of the sustainability of natural resources, landscape planning is required by the Act (Item 3, Article 1) to focus on 1) the identification and protection of special-functional zones; 2) the protection and restoration of soil quality; 3) the protection of the self-purification and natural evolution capacities of oceans and inland water bodies, and the natural-lifting of their capacities in flood retention; 4) the enhancement of functions in climate adjustment and air purification; 5) the protection of wildlife as a sort of natural resources; and 6) the space / time determination for the formation and evolution of natural ecosystems.

According to the Act (Item 4, Article 1), landscape planning for improvement of landscape aesthetics and recreational services should emphasize landscapes' value in diversity, uniqueness, aesthetics, and recreation, highlight the protection of natural and cultural landscapes, and stress the maintenance of public spaces and recreational landscapes in residential areas.

## 4.2 Planning Contents and Levels

Overall, the tasks of German landscape planning include these contents in Item 3, Article 9: 1) inventorying the status quo of nature and landscape and determining their expected development; 2) setting up objectives of nature protection and landscape management; 3) evaluating the actual and expected conditions of nature and landscape and identifying possible conflicts; and 4) selecting measures that should be taken for the implementation, among which priorities should be given to measures for avoiding, reducing, and eliminating (compensating) negative impacts; identification of natural reserves and compensation areas; establishment and protection of habitat network; protection and improvement of soil, water, air, and climate; maintenance and enhancement of the diversity, uniqueness, aesthetics, and recreational values of nature and landscape; and maintenance and enhancement of public spaces in residential areas.

It can be summarized that German landscape planning is a comprehensive eco-spatial planning that is guided by ecosystem concepts and emphasizes the compound of spatial functions and the integration of environmental elements across disciplines. In Germany, it has invited heated discussion on how to coordinate and practice landscape planning at different spatial scales and administrative levels, which is legally guaranteed by the overarching stipulation of the Federal Nature Conservation Act (Article 10, 11), i.e., each state should prepare its landscape program and specific regional landscape structure plans for different regions within; local authorities are supposed to

及自然与景观变化强度的判断来决定。同时，各地在制定各层级景观规划时需考虑与其相邻的其他联邦州的景观规划目标设定及政策措施（第12条），并在规划区自然与景观状态发生（或可预见发生）重大改变时，对该规划区域的景观规划进行相应修编。基于以上法律框架并结合德国的联邦制政体，各个层级景观规划的具体管理职责、编制

conduct landscape planning at the city or lower levels when the local conditions of nature and landscape are problematic or changing. In addition, while compiling landscape plans, local authorities should take the landscape planning's requirements and policies of the neighboring states into consideration (Article 12) and adjust planning contents when major changes of nature and landscape within the planned area (or will) occur. The responsibilities, formulation procedures, technical standards, and legal forces of landscape planning at different levels should be stipulated by laws of each state, which characterizes the

表1: 德国景观规划各层级的任务、内容和规划尺度<sup>[6][10][11]</sup>  
Table 1: The planning objectives, contents, and scales at different levels of German landscape planning<sup>[6][10][11]</sup>

| 行政级别<br>Administrative levels | 景观规划层级<br>Landscape planning levels | 主要任务<br>Primary objectives   | 规划内容<br>Contents  | 图纸比例<br>Scales        | 可分辨图例<br>Distinguishable legends  | 对应空间规划层级<br>Corresponding spatial planning levels   |
|-------------------------------|-------------------------------------|--|---|-----------------------|---|---|
| 联邦州<br>State                  | 景观纲要<br>Landscape program           | 明确跨区域的自然保护与景观管理目标、措施，协调跨区域景观要素（如河流等）的综合保护；为州一级其他规划提供自然保护与景观管理方面的技术支持；为下一级规划确定指导意见和框架条件；综合评估各项措施的可行性和优先次序等<br>Cross-regional objectives, measures, and landscape elements (e.g., rivers) for nature protection and landscape management are included in the landscape program, which can also provide technical orientations for the other plans at the state level, as well as the requirements and framework for the lower-level planning; the feasibility and priorities of various measures can be assessed comprehensively | 调查大尺度土地利用现状和生态系统状况，确定具备显著景观功能价值的区域；确定国家公园范围、生物多样性保护区范围及网络化措施、自然保护区范围和相应的保护等级等<br>Identifying the areas with significant landscape functional value based on the status quo of large-scale land use and ecosystem; Delimitating national parks, biodiversity reserves and associated grid measures, nature reserves and corresponding protection levels, etc.                            | 1:500,000 ~ 1:200,000 | 居民点，高等级公路，成片森林等大面积同质植被，农田，中型以上湖泊、河流等<br>Residential areas, high-grade roads, large-area homogeneous vegetations such as forests, farmlands, and medium-and large-sized lakes and rivers | 州域空间规划纲要<br>Federal state regional planning program |
| 地区<br>Region                  | 景观框架规划<br>Landscape structure plan  | 明确地区范围内的自然保护与景观管理目标、措施；为该地区的其他规划提供自然保护与景观管理方面的技术支持<br>Regional objectives and measures for nature protection and landscape management are included in the landscape frame plan, which can also provide technical intelligence for other regional planning works  | 全面调查地区内土地利用现状和生态系统状况；确定建设区、自然保护区与景观管理优先区域的地点及范围；确定自然保护具体对象以及需采取管理措施的景观单元<br>Investigating comprehensively the status quo of regional land use and ecosystems; identifying the location and territory of construction areas, nature reserves, and prioritized landscape management areas; identifying specific targets of protection and landscape units requiring intervention measures | 1:100,000 ~ 1:25,000  | 街区、桥梁、小型林区、城市绿地、岸边植被带、小型湖泊等<br>Blocks, bridges, small forests, urban green spaces, shoreside vegetation barriers, small lakes, etc.   | 区域规划<br>Regional plan                               |
| 市<br>City                     | 景观规划<br>Landscape plan              | 明确城市范围内自然保护与景观管理目标、措施；为城市建设规划和自然保护行政管理和政策制定提供专业依据；为具体项目设计和决策提供自然保护与景观管理方面的技术支持；为公众参与决策提供基础信息<br>Objectives and measures for nature protection and landscape management for the city's jurisdictions are included in the landscape plan; providing technical intelligence for urban construction planning and policy-making of specific projects in nature conservation and landscape management; informing public participation  | 调查分析区内自然保护与景观管理和发展需求的冲突，优化规划区自然与景观布局；确定建设区发展方式，明确补偿措施预留空间<br>Optimizing natural and landscape layouts in the city by the investigation of the conflicts between development demands with the needs of nature protection and landscape management; determining the development methods of urban construction and identifying spaces for compensation                                     | 1:10,000 ~ 1:5,000    | 单个住宅建筑、城市广场设施、单行绿化植物、小型绿化区等<br>Single residential building, facilities of urban square, single-line greeneries, small green spaces, etc.  | 土地利用规划<br>Preliminary land use plan                 |
| 社区<br>Community               | 开放空间规划<br>Open space structure plan | 具体实施以上各级规划提出的措施<br>Implementing the measures developed by higher planning levels   | 拟定规划区内绿地规划建设方案；确定补偿措施的具体实施细则<br>Formulating green space construction schemes in communities; defining detailed guidelines of compensation measures  | 1:2,500 ~ 1:1,000     | 公共休憩设施、绿化小品、小道、单株高大树木等<br>Recreational facilities, greenery amenities, trails, single tall trees, etc.  | 建设规划<br>Binding land use plan                       |

#### 注释

德国景观规划不同层级的空间尺度与中国国土空间规划的行政层级的对应关系大体如下：州一级景观纲要对应中国的地市级行政区划，地区一级的景观框架规划对应中国2~4个县级行政区划，市一级的景观规划则对应中国区县一级行政区划，社区一级的开放空间规划则基本对应中国乡镇中心或城镇社区规划。

#### NOTE

The landscape program at the state level in Germany corresponds to the city-level planning in China; the landscape structure plan at the regional level to the planning of an area of several counties in China; the landscape plan at the city level to the county-level planning in China; and the open space structure plan at the community-level to the township- or community-level planning in China.

规程、技术标准和法律效力均由各联邦州立法加以明确，由此形成了德国景观规划在实施层面的多样性。

经过几十年的实践探索，除面积较小的柏林、汉堡等联邦州外，德国的多数联邦州均构建了4个层级的景观规划体系：州一级的景观纲要、地区一级的景观框架规划、城市一级景观规划和社区一级的开放空间规划。自1976年以来，不同层级景观规划技术标准体系的确立是德国景观规划领域研究成果的直接体现（表1）<sup>[6][10]</sup>。

各层级景观规划制定规划任务的基本依据是，该层级空间尺度所对应的环境与生态问题必须与生态系统的范围或生态问题的严重程度和所拥有的行政动员能力相匹配（辅助性原则）。这一原则与德国联邦制政体的结合，往往并不能得到预期的合理解决方案——这是德国景观规划需要面对的一个体制性的根本问题，将在后文予以讨论。

### 4.3 规划地位与法律效力

依据德国《联邦自然保护法》及其他相关法律——如《空间规划法》（Raumordnungsgesetz）、《环境影响评价法》（Gesetz über die Umweltverträglichkeitsprüfung, UVPG）等，可以确定德国景观规划与其他规划的关系及其在现有规划体系中的定位（图3）<sup>[11]</sup>。

首先，德国景观规划的一项重要功能是为行政程序——包括战略环境评价（Strategische Umweltprüfung, SUP）、环境影响评价（Umweltverträglichkeitsprüfung, UVP）等——提供全方位的环境信息以及涉及自然保护与景观管理的具体目标，并在特定场合下直接承担环境影响评价的部分任务。另一方面，景观规划从其他行业/专项规划中汇集、整理并更新相关环境信息与目标体系，形成跨行业的综合目标，并与其他自然保护目标相协调以便反馈形成针对其他行业/专项规划的客观要求。另外，德国景观规划为空间规划方案的制定提供覆盖所有自然资源和生态环境领域的综合性目标体系，并可通过空间规划对景观规划措施建议的采纳而获取法律约束力。可见，不同于德国空间规划对各领域目标体系的协调、平衡和集成功能，德国景观规划突出强调环境信息收集、分析、共享以及自然保护与景观管理目标体系的整合。

diversity of German landscape planning in implementation.

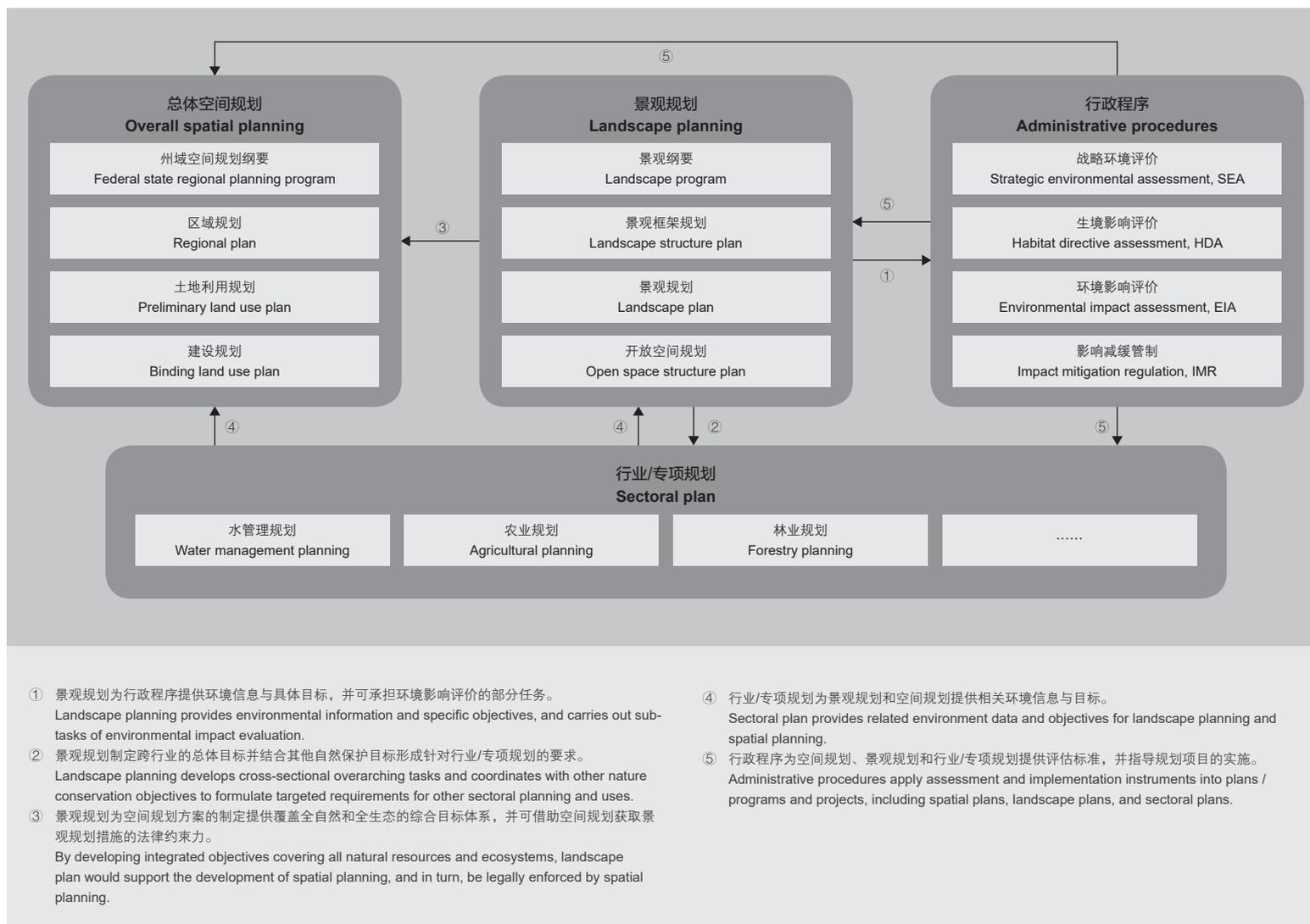
After decades of exploration, most federal states (excluding Berlin and Hamburg) have set up their four-level landscape planning system, namely the landscape program at the state level, landscape structure plan at the regional level, landscape plan at the city level, and open space structure plan at the local jurisdiction level. The establishment of technical standard systems of landscape planning at each level since 1976 is the most demonstrative research result of German landscape planning (Table 1)<sup>[6][10]</sup>.

The tasks of landscape planning at different levels are developed under a gist that the faced environmental and ecological issues should be matched with the extent of ecosystem or problem in question and the administrative mobilization power of the level (the principle of subsidiary). However, proper solutions to these issues cannot always be generated exclusively in this way, leaving a critical challenge to German landscape planning, which will be discussed in later chapters.

### 4.3 Status and Legal Force of German Landscape Planning

The position of German landscape planning and its relations with other planning systems can be recognized pursuant to the Federal Nature Conservation Act and the related codes such as the Territorial Regulation Law and the Law of Environmental Impact Assessment (Fig. 3).

For starters, as administrative procedures, one of the key functions of German landscape planning is to provide comprehensive environment data, formulate spatially specific objectives on nature protection and landscape management (including strategy environmental assessment and environmental impact assessment), and undertake environmental impact evaluation in specific scenarios. Furthermore, the landscape planning gathers and consolidates related environmental data and objectives to form the cross-industry objectives, and provides feedback on the formulation of objectives in other sectoral plan systems by coordinating with other nature protection objectives. Moreover, German landscape planning provides a comprehensive objective system that covers all natural resources and ecosystems throughout the country, which would support the development of spatial plans. Meanwhile, once the related measures in the landscape planning are adopted, the legal force would come into effect. Unlike the German spatial planning that coordinates, balances, and integrates the objective systems in economy, society, and environment, German landscape planning highlights the collection, analysis, and sharing of environmental data as well as the integration of the objectives in nature protection and landscape management.



3. 德国景观规划与其他规划及行政程序的关系 (改绘自文献[11])

3. The position of landscape planning in the German planning system and its relations with administrative procedures (adapted from Ref. [11])

在各联邦州的实践中，德国景观规划的法律效力主要通过以下三种方式实现：1) 景观规划作为空间规划的组成部分，在各层级空间规划中负责权衡自然保护与景观管理的目标要求，并直接赋予其法律约束性；2) 景观规划平行于空间规划独立编制，景观规划的目标要求只有经过与其他规划目标权衡并间接纳入空间规划后才具有法律约束性；3) 景观规划作为独立规划，其自然保护与景观管理的目标要求不需要经过空间规划的确认，而直接具有法律约束性<sup>[1][6]</sup>。

The way that German landscape planning acquires its legal forces varies among different states, namely 1) to turn landscape planning as the component of the state's spatial planning and the landscape planning shall weigh and determine the objectives on nature protection and landscape management, where the objectives shall be straight with the legal force; 2) to run parallel with the state's spatial planning and the objectives listed in the landscape planning shall be with the legal force if they are compatible with the objectives of other plans and included by the spatial planning; and 3) as a legally effective system, the landscape planning develops its objectives on nature protection and landscape management, which is independent from the state's spatial planning<sup>[1][6]</sup>.

为了提高可操作性,《联邦自然保护法》要求景观规划的编制考虑其规划措施应用于其他类别空间规划(如空间规划和建设规划)以及其他行业/专项规划和决策过程中的兼容性和适用性。同时,空间规划、其他专项规划及行政程序也必须综合考虑景观规划的相关要求,并有义务对不符合景观规划要求的规划内容或行政决策作出解释。地方行政当局是否履行了该解释义务以及解释是否充分合理,其监督权由上一级主管部门和利益相关的公民团体来行使<sup>[1]</sup>。因此,公众以及非政府组织的参与对于维持德国景观规划的有效运行起着至关重要的作用,并受到政府的政策激励和经费支持。

## 5 德国景观规划的未来与启示

### 5.1 德国景观规划面临的挑战

近年来的相关报告显示,德国联邦州与地方一级的景观纲要或景观框架规划已实现国土全覆盖,城市一级的景观规划覆盖率已达到70%以上<sup>[12]</sup>。而对景观规划的绩效评估结果显示,与未编制景观规划的城市相比,无论通过以上形式中的哪一种获得法律约束性的景观规划都会对规划地区的空间利用方式产生积极影响——例如景观规划对原柏林墙所在带状区域的空间利用方式的导引和管控<sup>[13]</sup>。迄今为止,德国不少城市已经完成或开始了第二轮乃至第三轮的景观规划修编<sup>[14]</sup>。对于德国景观规划效率的讨论在新的社会需求和技术背景下持续展开,并聚焦以下几点<sup>[1]</sup>:

首先,与德国基础设施规划相比,德国的联邦政体决定了其景观规划体系中自上而下的调控能力较弱。因此,德国发展出旨在协调不同层级规划的各类机制及一系列的合作框架和工具,并取得了显著成效,这无疑是德国景观规划基于其基本国情发展出来的重要特色之一。然而,联邦层面上景观总体规划的缺位导致了全国范围内自然保护和景观管理的战略性安排的缺失,造成跨区域、跨层级的自然保护

To enhance the operation of landscape planning, the Federal Nature Conservation Act regulates that the measures used in planning should be compatible with the requirements of other spatial planning (such as the spatial planning and binding land use plan) and applicable to other industrial / themed plans or decision-making processes. At the same time, spatial plans, special plans, and administrative procedures have to take the requirements of the landscape planning into account, and if not they have to explicitly give reasons for the deviation. The superior competent authorities and other public stakeholders are supposed to supervise whether local authorities have fulfilled their interpretation obligations and if such interpretation is well-grounded or not. To this end, such information has to be assessable to the public<sup>[1]</sup>. In this sense, the public and NGOs, with policy and financial supports from the government, play a crucial role in ensuring the implementation effectiveness of German landscape planning.

## 5 The Experience and Future of German Landscape Planning

### 5.1 Challenges Faced to German Landscape Planning

According to recent reports, all states in Germany have published their own landscape program and each region has prepared its specific landscape structure plan as well. Over 70% of Germany cities have put in place a landscape plans<sup>[12]</sup>. Based on performance evaluations, the cities that conducted any one of such legally-forced planning works have seen an obvious improvement in the patterns of land use. For instance, the landscape planning guided the management of belt-shaped spaces along the Berlin Wall<sup>[13]</sup>. So far, several cities have completed or started the second or third revision of landscape planning<sup>[14]</sup>. The planning efficiency has been discussed nowadays with considerations on current social needs and technology updates from the aspects as follow<sup>[1]</sup>:

Firstly, Germany's federal government structure made the top-down control in the landscape planning system weak, compared with the nationwide infrastructure planning for power projects, for example. Germany therefore designs a series of mechanisms, cooperation frameworks, and tools to coordinate planning systems at different levels, which characterizes German landscape planning and has achieved a remarkable success. However, the absence of the overall landscape planning at the federal level results in the nonexistence of strategic arrangements on nature protection and landscape management across the country, as well as the difficulty in coordinating the decision makings on major cross-region or cross-level nature protection

重大项目决策（如国家自然保护区和国家公园的范围划定）难以统筹和实施。德国所承担的国际义务（如欧盟生态网络体系的构建）在落地过程中也常常遇到来自当地利益相关者的阻力。

其次，虽然景观规划体系中包括了对生态补偿措施的具体要求（如侵入管控，Eingriffsregelung），但现有景观规划的技术体系缺乏对于自然保护与景观管理成本的经济核算，使得自然保护与景观管理的绩效评估缺乏统一标准。不难想象，在各联邦州采用不同补偿方式和标准的情况下，相同的自然保护与景观管理措施也会在经济学意义上产生明显差异，进而影响区域间资本流动，也使得上述跨区域的项目决策更加困难。

最后，尽管德国景观规划在实践中十分强调公众参与的重要性，但是，在各个层面进一步完善和细化相关技术规范（如物种保护等级、质量评价标准等）的努力与对公众参与的鼓励存在根本性冲突。公共利益和私人权益之间的矛盾无法得到根本性调和。此外，公众和非政府组织的知情权、参与权及监督权还受到规划信息专业程度和空间信息知识产权的限制。因此，基于新兴信息技术的公众参与方式有待进一步探索。

## 5.2 德国景观规划与中国国土空间规划的对比

德国景观规划体系特征的形成源于其赖以产生和演化的社会、经济与文化背景和实践需求。在各类影响要素中，公权力与私权利在土地支配和使用方面的界限划定、相关领域的标准化和规范化程度，以及规划决策的集权程度是决定规划体系特征的最主要因素<sup>[15]</sup>。德国的基本国情与中国差异显著。在历史传统和政治制度等规划体系赖以建构的社会-文化土壤方面，两国的差异更加明显。对比德国景观规划与中国国土空间规划产生的制度性背景，可以发现两者在以下三个方面均存在巨大差异（图4）。

首先，对土地使用、处置和收益的配置权是空间规划领域公权力与私权利博弈的核心问题，也是影响规划效率与公平性的最主要因素。两国的土地所有权制度截然不同，在公权力与私权利的制衡中，

project (such as the boundary delimitation of national nature reserves / parks). Germany has also confronted resistance in the fulfillment of its international obligations (including the project of the EU ecosystem network) from local stakeholders.

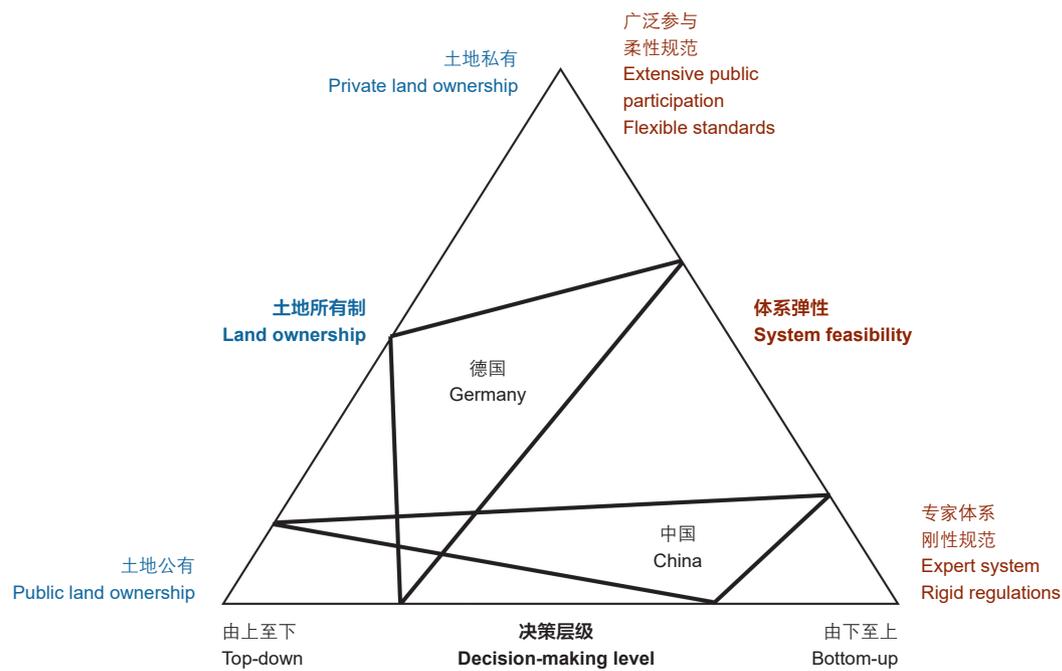
Secondly, existing technical systems of landscape planning do not include any cost estimation on nature protection and landscape management although detailed requirements on ecological compensation are listed in the systems. Uniform standards on the monetary performance evaluation of nature protection and landscape management are thus not in place. Significant differences of the costs of same measures on nature protection and landscape management would result from the variety of compensation methods and standards between states. This would further impact capital flows across regions and make it even more difficult for the decision-making of cross-region projects.

Finally, crucial conflicts exist between the efforts to improve and refine associated technical norms (such as the levels of species protection and the standards of quality assessment) with the encouragement of public participation that German landscape planning values a lot in its implementation. The contradiction between public interests and individuals' private interests cannot be radically removed. In addition, the rights to know, to participate, and to supervise of the public and NGOs are subject to the expertise level of the plan information and the intellectual property right of space data. As a result, public participation modes supported by emerging information technologies are expected to gain more efforts.

## 5.2 Comparison between German Landscape Planning and Chinese Territorial Spatial Planning

The nature and distinctiveness of German landscape planning system is defined by the social, economic, and cultural contexts and reality demands of the country. The delimitation of public power and private rights on land use, the standardization level in related fields, and the concentration level of the decision-making of planning processes are the determinants to the establishment of the planning system<sup>[15]</sup>. The national conditions, historical traditions, and political systems between Germany and China differ greatly. The outstanding differences between German landscape planning system and Chinese territorial spatial planning system are witnessed in three aspects as follows (Fig. 4).

First, the right to use and dispose over the land and relevant revenues is not only the core issue between public power and private rights but also the most determining factor on the efficiency and justice of planning. The institutional arrangements



4. © 罗琳, 林宇晨, Christina von Haaren, 王莎莎

4. 中德规划体系关键要素比较
4. The comparison of key aspects between German planning system and Chinese territorial spatial planning system

德国的制度性背景总体而言更倾向于对私权利的保障。但是，德国的土地私有制并不意味着土地所有者能够对其拥有的土地行使不受约束的支配权。包括景观规划在内的德国规划制度对于公权力、私权利与使用权利的保障进行了清晰的界定，例如，拥有一片土地的所有权并不等于所有者可自动获得实施土地相关的建设行为或汲取地下水等权利。相反，私权利的行使止于公共利益的需求（如土地功能分区等）。在中国，土地国有制度在保障规划权威的同时，公权力制衡机制的缺位导致规划公平性的失衡。在以往的实践中，对私权利的忽视带来社会矛盾激化、规划实施社会成本上升而效率下降的后果。因此，进一步明晰土地所有权、经营权与收益权的权益界限，为提升规划的公平性提供更多制度上的可能性，是进一步降低规划实施成本和提高规划实施效率的关键环节，也可极大地保障所有利益相关者的公平博弈。

其次，德国景观规划制度一直致力于相关技术流程和方法体系标准化，以保证规划成果的客观性、一致性和可复制性。另一方面，其在规划措施的设计中也充分保留公众参与决策的弹性空间。在刚性的规章制度与弹性的自由裁量之间寻找某种平衡是德国景观规划体系设计的重要经验。相比而言，中国规划的相关技术方法体系有待完善

in Germany gives greater importance to the protection of private rights. However, private land ownerships do not entitle land owners to unrestrainedly dispose the land on their own. German planning institution, including the landscape planning, clearly defines public power, private rights, and the right to use. The land owners have no right to construct buildings or draw underground water on the land on their own. The exercise of the private rights should not damage the public interests (e.g., land use types). In China, the state-owned system of land guarantees the authority of planning on the one hand but harms the fairness on the other. The historical neglect of the private rights has aggravated social conflicts and impacted the implementation efficiency of planning. Therefore, to further lower the costs and boost the efficiency of plan implementation, land ownership, the right to manage the land, and the right to gain revenues from the land should be clearly defined, thus institutionally guaranteeing the fairness of planning and the interests of all stakeholders.

Secondly, German landscape planning institution has standardized related technical procedures and method systems to ensure the scientism, consistency, and replicability of planning outcomes. At the same time, German landscape planning system emphasizes the feasibility of planning measures for public engagement in decision-making processes. The key experience of German landscape planning system is to strike the balance between rigid regulations and discretionary exercises.

而有效的公众参与与决策机制尚待建立，由此产生的大量自由裁量空间使决策过程中的黑箱操作成为了可能。目前，中国学界对于规划技术标准体系的关注反衬出其对决策机制及其弹性设计的忽视。此方面的研究和探讨应当引起学界和体系设计者的足够重视。

最后，与德国联邦制国家制度相对应，德国景观规划具有显著的分权体系特征。尽管法律要求下一级规划应该考虑上位规划的相关规定，但是，基层行政当局基于辅助性原则，对于是否编制规划、如何编制及实施规划拥有极大的自主权。由上至下和由下至上并存的双轨制在某种程度上导致了规划措施策略对接困难和实施效率低下；与此同时，其与完备的生态补偿机制相结合也为利益博弈和规划公平提供了某种程度的保障。中国的社会主义制度和“举国”体制极大地强化了规划的中央权威性。但是，由上至下的体制架构在为规划目标体系的系统性方面带来巨大优势的同时，常见的“一刀切”现象也使得规划在应对区域的特殊需求时缺乏弹性，降低了地方处理问题的效率。规划实施成本（生态成本）在向基层逐级传递的过程中不断增加，最终成为进一步影响规划效率与公平性提升的主要症结。此外，中国规划学术界对于辅助性原则在规划体系构建中的意义和作用还缺少深入研究。该原则在国土空间规划体系构建中的引入或许能够为国土空间保护与开发权利与责任的边界划定提供理论框架。

### 5.3 中国国土空间规划的探索方向

中国国土空间规划承担着“整体谋划新时代国土空间开发保护格局，综合考虑人口分布、经济布局、国土利用、生态环境保护等因素，科学布局生产空间、生活空间、生态空间”<sup>[16]</sup>的重大使命。在构建并完善其规划制度体系的过程中，一系列重要问题亟待通过实践总结来回答。例如，在科学性方面，如何在规划操作层面建立空间开发收益的分配机制以平衡空间开发与保护的关系？在协调性方面，如何实现不同区域国土空间发展权益的统筹？在可操作性方面，如何通过国土空间信息的有效共享完善规划参与机制？

In contrast, an effective mechanism for public engagement in decision-making processes is not yet in place in China's planning technology and method systems, where the discretion leaves much room to black box decisions. The increasing attention to technical standard systems of planning in China academia mirrors the neglect of reflecting the decision-making mechanism and the flexibility of the planning system, which is worth further studies and explorations by researchers and system designers.

Lastly, due to the federal government structure, German landscape planning system is explicitly decentralized. Although laws stipulate that the planning should be consistent with the requirements made by its higher-level planning, local authorities have great discretion on whether the planning is needed, how to prepare and implement the plans, by the principle of subsidiary. The existence of both bottom-up and top-down systems complicates the coordination between measures and impacts the implementation efficiency of planning. Meanwhile, the better balance of interests gaming and the fairness of planning are realized by combing with the perfect ecological compensation mechanism. China's socialist system enhances the authority of its central government. However, despite of the enormous advantages of the top-down architecture, the one-size-fits-all approach harms the flexibility of planning in dealing with specific needs and is inefficient in cases that can be handled easily by the local level. The costs (ecological ones) in the implementation at the community level increase and grow into a fundamental constraint to the enhancement of the efficiency and justice of planning. Moreover, the role of the principle of subsidiary to a planning system has not been fully studied by China scholars. This principle and its spatial specification may provide a theoretical framework to the definition of rights and obligations on the territorial development and protection in China.

### 5.3 Thoughts on China's Territorial Spatial Planning

China's territorial spatial planning is greatly expected to coordinate the territorial spatial development and protection pattern globally and make wise arrangement on spatial patterns of production, living, and ecological protection, with a thorough consideration on population distribution, economic growth, land use, and ecosystem protection<sup>[16]</sup>. To establish and improve the planning institution, the current issues must be addressed with practices, including how to design a feasible mechanism to distribute the yields of spatial development so as to coordinate its relationship with environmental protection; how to coordinate the development rights and interests among different regions; and how to improve the public participation mechanism by the sharing of territorial spatial data.

总结德国景观规划的上述实践经验并结合中国国情背景，可以预期，中国国土空间规划需要在以下领域展开积极探索：1）推动空间资源所有权、使用权与收益权的剥离，构建公私利益良性博弈与制衡机制，提升规划公平性；2）完善国土空间规划技术标准体系，以信息技术的集成探索为切入点来构建国土空间规划的决策参与机制、保障公众知情权，且重点在乡镇基层国土空间规划中强化公众参与力度和效率；3）在“五级三类”规划层级架构下确立上级规划权威性与战略性，提升规划效率，同时在充分汲取德国景观规划中以生态系统观为出发点的不同尺度、不同层级的规划实践经验的基础上，积极探索辅助性原则在中国国土空间规划层级体系设计中的应用途径——如构建生态系统服务等生态公共产品的有偿供给和跨区域补偿机制等——以实现跨层级和跨区域的利益协调。LAF

By examining the ideas and practices of German landscape planning and the reality of China, this paper makes its suggestions on Chinese territorial spatial planning: 1) To separate the ownership, the right to use, and the right to yields on spatial resources, build a productive public-private interest balancing mechanism, and ensure the fairness of planning; 2) To improve technical standard systems of territorial spatial planning, build associated decision-making mechanisms by introducing information technologies, and ensure the right to know of the public, with a special focus on enhancing public participation in territorial spatial planning at the township level in rural China; and 3) To strengthen the central authority and strategic thinking in the “Five-Level and Three-Type” hierarchical planning architecture, increase planning efficiency, and appropriately apply the principle of subsidiary into the design of China’s spatial planning hierarchy by learning from the good practices of German landscape planning at varied levels and scales (such as introducing the paid supply and cross-region compensation mechanism of ecological public goods like ecosystem services) in order to coordinate the interests across levels and regions. LAF

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