Abstract

Over the past few decades, environmental issues such as floods and climate change have attracted global attention. Faced with such environmental challenges, effective solutions are urgently needed. A variety of UN conventions in the environmental area show people's reactions to environmental issues, especially governments' responses during different periods. The historical evolvement of people's views on environmental protection indicates a trend from management to governance in handling environmental problems. More social actors are incorporated into the environmental movements, including individuals, experts, organisations, enterprises and governments. Accordingly, scholarly material emphasises the perspective of multi-level governance, especially public participation in environment-related decision-making. The integration of multiple actors bears a significant difference in governance theory. Feasible environmental laws and regulations provide an underlying guarantee for coordinative efforts which also offer guidance and set limits to government branches. These indicators can be thought of as measurements of global environmental governance. Taking into account China's carbon neutrality target by 2060, a particular focus will be dedicated to the environmental governance in China. An analysis of China's national legal and policy framework shows that the peculiarity of its political setting is mainly reflected in the centralisation of government power. The country has witnessed a proliferation of environmental laws and regulations to enhance its law-based environmental governance. The practicing of laws and regulations gives more insights to the patterns of environmental governance in China based on the proposed assessment indicators.

Key words: environmental governance, multi-level perspective, law-based environmental governance, legal and policy framework, coordinative efforts

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Patterns of Environmental Governance in China: An Analysis of Environmental Litigation, 2015-2020

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Table of Contents

List of Abbreviations

European Union (EU)

United Nations (UN)

United Nations Environment Programme (UNEP)

Environmental Impact Assessment (EIA)

The Tort Liability Law of China (the Tort Law)

The Environmental Protection Law of China (2014) (the EPL (2014))

The Supreme People's Court of China (the SPC)

The Supreme People's Procuratorate of China (the SPP)

The Communist Party of China (the CPC)

The National people's Congress of China (the NPC)

The All-China Environment Federation (ACEF)

China Biodiversity Conservation and Green Development Foundation (the GDF)

The National Human Rights Action Plan of China (the Action Plan)

The Provisions concerning Work on Guiding Cases (the Provisions)

The Guiding Opinions on Unifying the Application of Laws to Strengthen the Retrieval of Similar Cases (for Trial Implementation) (the Opinions)

The Interpretation of the Supreme People's Court on Several Issues Concerning the Application of Law in the Conduct of Environmental Civil Public Interest Litigation (the Interpretation of Environmental Public Interest Litigation)

Figures & Tables

Notes:

1. The national statistics covered in this thesis refer only to mainland China and do not include other administrative regions of the Chinese territory since they have different legal systems, such as Hong Kong and Macao.

2. Any laws, regulations, or government agencies mentioned in the thesis are under the jurisdiction of the Chinese Government, if not specified. For example, by saying Ministry of Ecology and Environment, we refer to the Ministry of Ecology and Environment of China. Since we mainly talk about the samples of China, especially in Chapter 3, the thesis chooses to avoid repeating the country's name to be succinct.

Introduction

Darwin once wrote in his diary: 'Among the scenes that are deeply impressed on my mind, none exceeds in sublimity the primeval forests undefaced by the hand of man; [...], no one can stand in these solitudes unmoved and not feel that there is more in man than the mere breath of his body' (Jiménez-Pazos 2021, footnote 25, 80). Like Darwin, the raw and riveting splendour of natural beauty stirs within most human beings. None of us would like to enjoy the beauty of the wilderness by recalling a wistful of verses – while forests, rivers, lakes, and their animal inhabitants have disappeared due to man-induced catastrophic events. Nevertheless, we are not doing enough to preserve the natural environment. To restore it to pristine conditions is impossible, and efforts in such a direction would be meaningless. However, a reasonable common goal would be to maintain a natural environment where future generations could live in a sustainable way, that is keeping the osmotic exchange between physical reality and anthropogenic modification that has characterized human nature and natural humanness since the eve of modernity.

In recent years, more and more extreme and unpredictable weather phenomena have affected different communities and nations, amplified by global warming and climate change. The year 2021 witnessed historic floods in western Europe (where at least 220 people died between July 12 and 15[1]) and eastern Asia (a rainstorm on July 20th caused 398 people to die or disappear in China's inland province of Henan[2]). Extreme weather phenomena have pushed the climate change

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[1] See: https://edition.cnn.com/2021/08/23/europe/germany-floods-belgium-climate-change-intl/index.html, last visited: 24/01/2022.

[2] On August 17, 2021, the death/missing number was reported as 352 according to the local official (https://www.henan.gov.cn/2021/08-02/2194036.html). Then, the Specialised Investigation Team of the State Council issued a

emergency to the forefront. Scientists urge us to step up to dramatic environmental challenges. If the world fails to implement radical measures, we expect year by year 'a higher chance' of such extreme weather accidents (Dewan, 2021).

Scholars and activists are making considerable efforts to attract people's attention to the urgent need to take environmental protection measures, stressing the importance of preserving biodiversity, contrasting the glacial melting, mitigating the effects of the rise in sea levels, *etc*. Quite significantly, on October 8th, 2021, the UN Human Rights Council recognized the right to a healthy environment (Human Rights Council resolution 48/13 [3]). We cannot deny that environmental problems, namely those connected to climate change, are increasingly impacting all human societies and creating concern and alarm among billions of individuals. The international community and many states have been striving to instil environmental protection awareness and global warming mitigation drivers into their policies and laws. But their efforts are far from being resolutive. The first global report on the Environmental Rule of Law (2019) states that implementation and enforcement of environmental laws and regulations fall far short of what is required to address environmental challenges. Law instruments sometimes lack clear standards or necessary mandates. Environmental governance takes a leading part in dealing with ecological problems that encompass everything from climate change and pollution to environmental degradation and resource depletion. Comprehensive governance of the environment is required. However, what is environmental governance, how does it operate, and which actors are crucial?

This research is interested first and foremost in what environmental governance is like in China. With international environmental instruments and scholarly contribution, this thesis extracts some indicators to assess environmental governance in Chinese context for its unignorable impact on the global environment. We would select and comment on a series of environmental lawsuits to assess the Chinese approach to environmental governance peculiarities through the prism of the judicial litigation.

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report on January 21, 2022 stating the true number of deaths and disappearances is 398, and relevant officials under-reported this figure before (http://www.gov.cn/xinwen/2022-01/21/content_5669723.htm), last visited: 20/03/2022.

[3] See: https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=27635&LangID=E, last visited: 24/01/2022.

The thesis focuses on three significant questions:

1. What can we learn about environmental governance from the existing international environmental legal system? Is there – and what does it look like – a global consensus about environmental governance?

2. What is in place to articulate and realize environmental governance in China – from environmental laws and regulations to the implementation status quo?

3. How do we evaluate China's environmental governance from the peculiar viewpoint we have adopted, namely the analysis of Chinese case law? Are the characteristics of the Chinese approach compatible with the global one? Is the Chinese jurisprudence equipped to underpin environmental governance efforts at the national level and aware of the global initiatives and trends in this field?

The thesis will start with a normative observation of the international environmental instruments to distil some main factors of environmental protection activities. Through the evolvement of people's attitudes towards the environment and the scholarly contributions, environmental governance is set as the theoretical premises of this research. In Chapter 2, an impressionistic view vis-à-vis environmental governance in China from the policy and legislation perspective will be pictured. The peculiarities of the Chinese political setting are a necessary background for the analysis of Chinese jurisprudence. Chapter 3 is then dedicated to a series of environmental cases adjudicated by Chinese courts. In line with the environmental governance indicators detailed in Chapter 1, environmental governance issues in the Chinese context will be examined for the compatibility with the concepts in the global discourse. The final chapter delivers a few conclusive comments on the implementation status quo of Chinese environmental laws and regulations. The factual output of the case analysis shows that the Chinese approach is responding to global environmental initiatives with its own characteristics

Overall methodological approach

The research method of this dissertation is descriptive-analytical. I collected the environmental case data from the official database of the Supreme People's Court of China (hereinafter referred to as the SPC). The first two chapters mainly employ a normative approach to study what shared values the theory of environmental governance should harbour, following the legal instruments and political documents related to environmental protection at the international, regional, and national scales. After a descriptive exposition of their normative contents, some common features are highlighted from the prescriptive and regulatory provisions to elaborate a set of criteria that describe the environmental governance at the global scale. The background principle I followed is that of conceptual diversity, here understood as a pluralistic vision that justifies multiple conceptualizations of a single notions based on the respective domestic situations in each country. In other words, I premised my analysis on the assumption that the inclusive and adaptive theme of 'environmental governance' is open to different interpretations to meet the national and social circumstances of specific state systems. The 'national margin of appreciation' is not to be conceived of as a tolerated but inconvenient dilution of the global standards arbitrarily imposed by national actors. Rather, in connection with the fluid practice of governance, it is meant to express the interplay between global and local dynamics, whereby the local ones are arguably the most innovative and effective. Diversity in conceptualization and local adaptation has the potential to renovate, according to a bottom-up method, the UN family policies and standards, the practice and normative frames of other international and regional organizations, through a web of interactions that involve not only governments, but also non-profit and civil society organizations, the private sector, government independent authorities (including the judiciary), academia, and other actors.

The concept of 'environmental governance' – as I will try to show along the chapters, varies in connection with the set of actors and variables taken into consideration, and constantly change to capture the specific circumstances at stake. Accordingly, in trying to capture the characteristics of environmental governance in China, I decided to prioritize problems, strategies and solutions emerged in the jurisprudence of Chinese courts. This area is relatively unexplored but seems to be particularly promising. In the case law, patterns of environmental governance may emerge via the interaction between public and private instances, the competing interests of a variety of stakeholders, within a context that gives voice to all legitimate actors and where legal and scientific expertise can be displayed. The empirical part of the research conducted for this thesis consists of an analysis of judicial cases in all levels of Chinese courts. The analysis of the case law is introduced by a discussion of the current system of legislative and policy framework that frames environmental governance in China. The exposition, in this section, adopts an institutional approach[4] and illustrates political and legal dimensions that characterise any specific segment of the state system while performing its functions in the area of environmental issues, always taking into account the way rights and obligations, entitlements and public powers interact in a inter-dependent.

The study aims at interrogating the nature of environmental governance by cross-examining how the political system in China takes actions, decides, enacts policies and laws, and how society sections articulate and push forward their needs and their demands, trying to influence and shape the political process via a feedback mechanism. These dynamics are viewed through the prism of judicial litigations, considered as a space increasingly important in the process of shaping, mediating, implementing and enforcing patterns of environmental governance.

[4] The institutional approach is a traditional and important approach to the study of political science. It mainly deals with the formal aspects of government and politics, especially the political institutions and structures like the legislature, executive, judiciary, political parties, interest groups, *etc*. see: http://www.kkhsou.in/main/polscience/approaches_polscience.html, last visited 04/13/2021.

Chapter 1 Global Environmental Governance

This chapter mainly elaborates on the working notion of environmental governance from the normative perspective. Starting from a variety of United Nations (UN) conventions related to environmental governance, we can see the historical evolvement of people's views on environmental protection. When and why do people start to care about the environment? What are their attitudes towards the environment at different periods? How does the relationship between the environment and human beings move forward over time? This chapter aims to offer some answers to these questions, thus extracting some key components of environmental protection. Going beyond the international frame, we also shed light on some scholarly materials. Some academic work contributes a lot to the theoretical premises of the entire research. Therefore, this part is an attempt to articulate the legal and policy-oriented patterns of environmental governance based on a large gamut of hard and soft law/international materials to which most states have adhered, including China. The approach is quite global and abstract at this stage, while more concrete implications will be detailed in later paragraphs will draw out the implications in a more concrete way. To be more specific, chapters 2 and 3 will provide indications of how this may play out in the Chinese context.

1.1 Introduction to Environmental Governance

In this chapter, we will first review some international conventions in the environmental area to delve into people's attitudes towards the environment from the late 20th century until the present. The focus of the various UN environmental instruments is on exhibiting people's reactions, especially the responses of governments to environmental issues during different periods. The normative study describes the status quo of the environmental commitments made by countries, with a particular emphasis on the points of convergence among the documentary resolutions. The commonalities found in this study bear the features of solutions to environmental problems, which are potentially helpful in realising environmental governance.

1.1.1 UN Conventions Concerning Environmental Governance

The Stockholm Declaration (1972)

The Stockholm Declaration (The Declaration of the United Nations Conference on the Human Environment, 1972) was proposed in the first international environmental conference[5]. The then general attitude towards the environment was human-centred. As stated in the declaration, 'of all things in the world, people are the most precious' (Chapter I, Art. 5). Some attention was paid to environmental consequences, with the aim of constructing 'an environment more in keep with human needs and hopes' (Chapter I, Art. 6). Humans were so self-confident at that time and took their needs as a top priority. It is more accurate to interpret their opinions on the environment as 'a recognition of the impact of environmental factors on human rights' (Lewis 2018, 78). People were thrilled and excited about the rapid development of science, technology and the commodity economy due to the industrial revolution of the 18th century. However, this high-speed economic growth has not only exacerbated the inherent social tensions of inflation and unemployment but also caused wider and more serious problems such as the North-South divide, the energy crisis, environmental pollution and ecological damage (Qu 2002, 11). Thus, they believe that humans would become more capable of improving the environment over time, and there is still a lot of space to enhance the environmental quality.

The words 'management/manage' appears 5 times in the 26 Principles of the Declaration, listed as follows:

> Principles 2 'The natural resources…must be safeguarded…through careful planning or *management*, as appropriate.'
>
> Principle 4 'Man has a special responsibility to safeguard and wisely *manage* the heritage of wildlife and its habit…'

[5] Many scholars talked about the Stockholm Declaration and Rio Declaration from a perspective of human rights. For more information, please check: Günther Handl (1992) 'Introductory Note on the Stockholm and Rio Declaration'; Sumudu Atapattu (2002), 'The Right to a Healthy Life or the Right to Die Polluted? -- The Emergence of a Human Right to a Healthy Environment Under International Law'; Leib, Linda Hajjar (2011) 'Human rights and the environment: philosophical, theoretical, and legal perspectives', 71-157; Bridget Lewis (2018) 'Environmental Human Rights and Climate Change: Current Status and Future Prospects'; Shelly Hiller Marguerat (2019) 'Private Property Rights and the Environment: Our Responsibilities to Global Natural Resources', 153-202.

> Principle 10 ‘For the developing countries, stability of prices and adequate earnings for primary commodities and raw materials are essential to environmental *management*…’
>
> Principle 13 ‘… achieve a more rational *management* of resources…’
>
> Principle 17 ‘Appropriate national institutions must be entrusted with the task of planning, *managing* or controlling the environmental resources…’ (Emphasised in italics).

We can see from these provisions that environmental protection and promotion are proposed to be achieved mainly via management activities. Then what is management in this regard? Fayol (1949, 5) distils the management process, in an epigrammatic style, into a series of activities, stating that, ‘to manage is to forecast and to plan, to organize, to command, to coordinate and to control’. From the six verbs, a mighty and powerful entity that would conduct these acts arises. At the same time, Davis (1951, 6) holds that ‘management is the function of executive leadership anywhere’, providing an answer to Fayol’s explanation for management, that is, we cannot talk about management without an executive body. Management is not only a generic function but also a common primary task faced by every country, or more specifically, by every government. It rests squarely on the shoulders of the leadership, direction and decision in social institutions. The management has to direct the institution it manages, considering the institution’s mission, setting its objectives, and organizing the resources for the results to which the institution has to contribute (Drucker 1986, 17). Drucker then pointed out more qualities one government needs to possess in the management process, suggesting that it should be clear with its foundation goals and stick to its objectives. While striving to materialise the political endeavour, the executive body shall collect and systematise any other factors to work jointly. For example, the mass media shall ‘disseminate information of an educational nature on the need to protect and improve the environment’ (Principle 19).

According to the Stockholm Declaration, it is ‘the duty of all governments’ (Chapter I, Art. 2) to protect and ameliorate the environment, even though all the actors in society, including citizens, communities, enterprises and institutions should be responsible. Above all, local and national governments take the greatest responsibility (Chapter I, Art. 6) for formulating environmental policies and taking appropriate actions. In the process of the environmental cause, it is necessary to have ‘an enthusiastic but calm state of mind and intense but orderly work’ (Chapter I, Art. 6).

States should be passionate about environmental preservation and carry out rational measures 'in an integrated and coordinated manner' (Principle 13).

Meanwhile, environmental resources are non-exclusive, thus contributing to benefits that should be 'shared by all mankind' (Principle 5). Correspondingly, each individual has his/her own role to play. It is fully convinced in the Stockholm Declaration that individuals and organisations from different fields play an important role in shaping the future environment (Chapter I, Art. 7). Environmental knowledge enables people to understand and express their opinions on environmental matters (Principle 19). Apart from individuals, international organisations shall 'play a coordinated, efficient and dynamic role' in protecting the environment (Principle 5).

Furthermore, the Stockholm Declaration pays much attention to the relationship between economic development and environmental protection. Some relevant extracts are from Principle 4 ('nature conservation must receive importance in planning for economic development'), Principle 8 ('Economic and social development are essential for ensuring a favourable living and working environment for man'), Principle 10 ('both economic factors and ecological process must be taken into account'), Principle 11 ('States and international organisations should take appropriate steps with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures'), Principle 15 ('urbanisation plans should avoid adverse effects on the environment and obtain maximum social, economic and environmental benefits for all'), *etc*.

More than six specific articles in the Stockholm Declaration directly mentioned economic development while discussing environmental improvement (Principle 4, 8, 10, 11, 15 & 18). By contrast, the discussion about social development is insufficient, appearing three times along with the topic of economic growth in the same article (Principle 8, 15 & 18)[6]. We can see from the subtle difference that economic development has been occupying a significant position since the very beginning. The competing and mutually supporting economic growth and environmental

[6] Here we refer to the direct use of the words 'economic/economy' and 'social/society' in the total 26 principles, rather than the underlying message inferred from some other articles. There are some modifications in citing these articles to make them fit well into the context, including omitting some insignificant words and altering some expressions.

protection set the tone for later work in the first environmental conference. 'Rational planning constitutes an essential tool' (Principle 14) to reconcile conflicts. On the other hand, environmental problems can be identified and controlled by virtue of science and technology, which are the product of economic and social development (Principle 18).

Against the backdrop of the then unbalanced global development, the Declaration emphasises the significance of financial and technological assistance provided by the international society and developed countries for under-developed countries. For example, in Art. 7 of Chapter I, environmental preservation is regarded as a common cause for all people. Therefore, it is necessary to hold the belief of leaving no country behind on the way to improving the human environment. Every country should make its own efforts. As appealed in Principle 9 & 20, international assistance should be provided to supplement the insufficient domestic effort of developing countries when they face financial and technological difficulties. Besides the exertion of environmental protection, developing countries shall enjoy a fair deal to ensure their economic development in international treaties. Developed countries shall not exploit them by taking actions such as, the transnational movements of polluting waste (Principle 10 & 11). Principle 12 shows a preference for tailored solutions when 'incorporating environmental safeguards into the development planning' in developing regions. That is to say, there are no one-size-fits-all approaches, and each country shall consider its particular domestic circumstances. The Declaration acknowledges the differences among different countries and calls for joint work to conserve the environment (Principle 20, 22, 23 & 24). As a result, international cooperation is indispensable in tackling environmental problems, either regional/transboundary issues or financial/scientific support.

The Rio Declaration (1992)

Twenty years after the Stockholm summit, the Rio Declaration on Environment and Development (Rio Declaration)[7] was put forward at a UN conference (widely known as the Earth Summit) in

[7] For reference, please see: Günther Handl (1992) 'Introductory Note on the Stockholm and Rio Declaration', Jorge E. Viñuales

1992, setting its primary goal in the Preamble, that is, 'to establish a new and equitable global partnership' (Paragraph 3 of the Preamble) to maintain the 'integrity of the global environmental and developmental system' (Paragraph 4 of the Preamble) through multi-level cooperation among countries, social actors and individuals (Paragraph 3 of the Preamble). In this stage, environmental instruments were enacted in a more prudent and humble way, which is different from the extreme complacent attitude during the Stockholm period[8]. The Rio Declaration pursues an interactive and harmonious Earth home (Paragraph 5 of the Preamble), while, holding the idea of a mainly human-centric environment (Principle 1 views human beings as the central concern of sustainable development).

The spirit of humility is also reflected in an intense focus of the Declaration on cooperation. This means countries overcome their technical/scientific capacity limits, especially when tackling transboundary environmental problems. To be more specific, the Rio Declaration addresses the word 'cooperation' in 8 places (Principle 5, 7, 9, 12, 13, 14, 24 & 27) out of its total 27 principles, apart from an emphasis on 'the new levels of cooperation among states, key sectors of societies and people' in the Preamble. The spirit of 'global partnership' is mentioned in Principle 7, which encourages countries to look beyond their internal interests to conserve and restore the environment. In the light of the uniqueness of environmental issues, we cannot overemphasize technology cooperation to strengthen the capacity to understand, detect and tackle emerging environmental issues (Principle 9). Principles 5, 12, 13 & 14 set out collaboration among countries to eradicate poverty, promote the development of international economic systems, formulate international laws and prevent the spread of environmental hazards.

In this context, cooperation refers to the joint effort of individuals, organisations and countries to achieve common environmental protection purposes through the orderly sharing of space or resources. The cooperative process provides an external perception of different stakeholders' respective contributions to the environment, while the participatory process, from an internal

(edited) (2015) 'The Rio Declaration on Environment and Development: A Commentary', Oxford: Oxford University Press.

[8] Some of the expressions in Stockholm Declaration include 'man has acquired the power to transform his environment in countless ways and on an unprecedented of production, science and technology, the capability scale' and 'of all things in the world, people are the most precious'.

perspective, underscores various participants' involvement in activities in the form of being consulted or having opportunities to express themselves. Principle 10 discusses the participation of citizens in environmental issues from the angels of access to relevant information, opinion input in decision-making and an effective approach to getting remedy through administrative and judicial proceedings. For example, indigenous people should be endowed with the right to participate in the development of their local communities to preserve their traditions and identity characteristics, thereby achieving sustainable development (Principle 22). Besides individuals and indigenous communities, other principles also mention women and youth participation in environmental management[9]. We are glad to see that the participation of 'environmentally vulnerable' (Principle 6) groups gains more attention in the Rio Declaration as they are in weak economic status, which is often the unavoidable cost of environmental preservation.

Although worries about lower economic growth lie between the lines of the Stockholm Declaration (Najam & Cleveland 2004, 542), the Rio Declaration considers economic systems (Principle 12) and economic instruments (Principle 16) as essential safeguards and conditions for sustainable development, rejecting the placement of environmental protection in the opposite of economic growth. Accordingly, the main topic of the Rio Earth Summit is the notion of sustainable development, which is to incorporate environmental protection into the development process. The environmental factor was thus perceived as 'an integral part' of the developmental system rather than an isolated consideration (Principle 4). With economic and social development, the three interdependent and interconnected pillars of sustainable development were established. In conjunction with the language of full participation, sustainable development covers inter- and intra-generational equity, as well as regional, cultural, and gender equity (Principle 2, 3, 5, 7, 12, 20 & 22), delivering the idea of leaving no one behind.

In terms of the relationship between environmental protection and development, Principle 7 establishes 'common but differentiated responsibilities' in view of different development phases in different countries. Based on the polluter-pays principle, which means that polluters 'bear the

[9] For reference, Principle 20 'Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.' Principle 21 'The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.'

cost of pollution' (Principle 16), developed countries not only possess technological and financial resources but also contribute more to environmental degradation than developing countries. In this case, fairness means differentiation with the consideration of the disparity among different sectors. Since there is no 'one size fits all' methodology, 'environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply' (Principle 11). Bearing in mind the goal of global environmental protection, each country can exploit its resources (Principle 2), strengthen endogenous capacity (Principle 9) and apply a precautionary approach (Principle 15) according to their domestic regulations and technology abilities.

Likewise, the Rio Declaration uses 'environmental management' frequently (Principle 11, 20 & 22) to describe environmental protection activities. As the management in this context, governments shall facilitate public participation by providing individuals with easy access to relevant environmental information and offering effective remedies (Principle 10). In addition, environmental legislation plays a vital role in instructing social activities and specifying liabilities (Principle 11 & 13). The competent environmental authority shall perform specific environmental management projects, such as environmental impact assessment (Principle 17).

The Aarhus Convention (1998)

The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), which was enacted on October 30th, 2001, is more of a landmark instrument endowing people with the procedural right in terms of environmental matters. As the title shows, the Aarhus Convention has three pillars, which were developed according to Principle 10 of the Rio Declaration [10].

[10] Principle10 of the Rio Declaration 'Environmental issues are best handled with the participation of all 30 concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy,

Compared with the former Stockholm Declaration and Rio Declaration, the Aarhus Convention adopts a fresh expression to describe the relationship between environmental protection, economic growth and social development. Specifically, the Stockholm Declaration uses two separate terms of 'economic development' and 'environment safeguards/improvement'. Rather than maintaining the clear distinction at the 1972 Stockholm conference, the Rio Declaration embraces the expression of 'sustainable development', integrating the environmental factor into the overall developmental system. The Preamble of the Aarhus Convention, incrementally, develops a turn of phrase -- 'sustainable and environmentally sound development', which is an interpretation highlighting the importance of environmental protection to sustainable development. However, it is worth noting that the subtle modifications in the documents are not for visual effects but for the demonstration of the evolution of the formulation spirit.

Progressively, instrument-makers attempted to alleviate the tight tensions between economic growth and environmental preservation, so as to implement environmental protection practices ideally. The concept of rationality is multidimensional, and each dimension of rationality has an order of magnitude and comparative value. From the domination rule of rationality, we can catch a glimpse of its value priorities (Bartlett 1986, 222). Economic growth and ecological protection are competing and conflicting values. Before the emergence of environmental problems, people mainly focused on economic development, judging and calculating rational behaviour with an economic orientation and seeking to maximise personal welfare, private property, consumer goods and services. These economic impulses were representatively universalised, with an attempt to exclude non-mainstream theories such as ecological economics (Hancock 2003, 18), which, combined with the logic of economic rationality, attempts to quantify and standardise the concept of respect, tolerance and responsibility for the natural environment (Hancock 2003, 19).

The Aarhus Convention centres on the relationship between the public and the government, stipulating the public authorities' accountability, transparency, and responsiveness in terms of environmental matters. The top priority of the government is to set out an implementation framework at the legislative level by providing compatible regulations on information, participation and access-to-justice (Art.3-1). The public authorities should perform their functions

shall be provided.'

and make their efforts to help the public exercise their rights. For instance, they can make use of the media and other forms of communication to provide information for the public. Stepping out of one single governmental branch, legislative and administrative bodies should cooperate to promote the established environmental procedural rights of the public (Art.3-2). Besides, the public authorities should timely and adequately respond to the requests for environmental information made by the public.

For public participation, the prerequisite is the involvement of individuals, organisations and private sectors. Environmental groups and organisations are in need of 'appropriate recognition and support' from the government (Art. 3-4). Chapter 4 is about facilitating public participation with smooth channels, especially at the legal system level, and executive branches should respond to participants timely and properly. The government should also equip the public with environmental knowledge and raise their environmental awareness. A better understanding of the environment can encourage their widespread participation in environmental matters and boost their capabilities of affecting environmental decisions.

According to Art.9 on 'Access to Justice', a sound judicial mechanism within each party of the Aarhus Convention should be well prepared for any person's review procedure concerning their requests for environmental information. The judicial review procedure should be expeditious and affordable for individuals and provide effective remedies. In addition to judicial procedures, administrative procedures conducted by the public authorities or an independent and impartial body should be guaranteed.

Other relevant international environmental documents

Firstly, the Governing Council of the UNEP held its seventh special session in 2002 and adopted a decision on international environmental governance, reiterating some valuable ideas proposed at former meetings and indicating that environmental governance is a process encompassing all environmental efforts and arrangements (UNEP 2002, 25). Moreover, a policy-oriented assessment of environmental institutions laid the foundation for future options to strengthen environmental governance (UNEP 2002, 24). Annex I (UNEP 2002, 22-55) of the decision

presents a comprehensive understanding of environmental governance, which includes the consideration of issues as follows[11]: scientific assessment and monitoring, coordination at national and inter-agency levels, the harmony within environment-related conventions, the broader involvement of the civil society and the private sector, the change in the existing structures in response to new environmental emergence, *etc*. The decision also stresses the demands and restrictions of underdeveloped countries, yet environmental considerations should not be excluded from mainstream economic and social decision-making.

Secondly, the World Summit on Sustainable Development adopted two resolutions: the Johannesburg Declaration on Sustainable Development (the Johannesburg Declaration) and the Plan of Implementation of the World Summit on Sustainable Development (the Implementation Plan 2002). The latter is a key output of this 2002 Summit. According to Art.4 of the Introduction of the plan[12], good governance is integral to sustainable development, domestically and globally. National governance is considered to include environmental policies, institutional responses to people's demands, the rule of law and anti-corruption practices. In the international scope, developing countries are increasingly dependent on external support, both technically and financially, to enhance the sustainability of their national development. The Implementation Plan 2002 provides concrete measures to halt unsustainable patterns at all levels, including improving the social and environmental performance of enterprises by requiring certification and public

[11] Recommendations of the intergovernmental group of ministers to the global ministerial environment forum include: improved coherence in international environmental policy-making, strengthening the role and financial situation of UNEP, improved coordination among and effectiveness of multilateral environmental agreements, capacity-building, technology transfer and country-level coordination for the environment pillar of sustainable development, and enhanced coordination across the United Nations system.

[12] Good governance within each country and at the international level is essential for sustainable development. At the domestic level, sound environmental, social and economic policies, democratic institutions responsive to the needs of the people, the rule of law, anti- corruption measures, gender equality and an enabling environment for investment are the basis for sustainable development. As a result of globalization, external factors have become critical in determining the success or failure of developing countries in their national efforts. The gap between developed and developing countries points to the continued need for a dynamic and enabling international economic environment supportive of international cooperation, particularly in the areas of finance, technology transfer, debt and trade and full and effective participation of developing countries in global decision-making, if the momentum for global progress towards sustainable development is to be maintained and increased.

reports on relevant issues and encouraging dialogue between enterprises and communities before new industrial operations are conducted (18 -- a & b).

Thirdly, one of the major contributions of the Kyoto Protocol (passed in 1997 and entered into force in 2005) is the introduction of market mechanisms to abate greenhouse gases emissions such as subsidies provided for environmentally friendly industries and taxation on greenhouse gas emitting sectors (Art.2). The Protocol also sets rigorous registry, reporting and compliance systems to monitor emission targets[13], focusing on industrialized countries according to the respective capacity and differentiated responsibilities of different countries. Going beyond targeted regions, the joint implementation of developed and underdeveloped countries is encouraged through financial and technical assistance (Art.11.2-b).

Fourthly, the 2000 UN Millennium Development Goals (MDGs) further set out eight ambitious goals to achieve sustainable development, including efforts on poverty, education, gender equality, child mortality, maternal health, combating HIV/AIDs, malaria and other diseases, environmental sustainability and foster a global partnership for development (UN 2013, 60). Additionally, six fundamental values are proposed to deal with international relations, including freedom, equality, solidarity, tolerance, respect for nature and shared responsibility. This indicates that environmental protection is one of the biggest goals for the century and governments shall devise relevant policies and make greater efforts to achieve the sustainability of environment. The MDGs was mainly designed to end extreme poverty by 2015[14], still it gathered momentum for future actions.

Fifthly, the 2030 Agenda for Sustainable Development is a successor to and a development of the decades of efforts to promote peace and prosperity on the planet, incorporating environment-related targets into the global development agenda. Furthermore, the 17 Sustainable Development Goals (SDGs)[15] are mutually reinforcing. In very broad terms, all of the SDGs could have their

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[13] For more information on the Kyoto Protocol, please visit: https://unfccc.int/kyoto_protocol.

[14] In the Millennium Development Goals Report 2013, the then UN Secretary-General Ban Ki-moon said that 'the MDGs have been the most successful global anti-poverty push in history'. For more information on MDGs, please visit: https://www.un.org/millenniumgoals/pdf/report-2013/mdg-report-2013-english.pdf.

[15] The 2015 UN Sustainable Development Summit proposed 17 SDGs, including: (1) No Poverty, (2) Zero Hunger, (3) Good Health

respective influence on climate solutions[16]. More specifically, SDG 2 is about sustainable agriculture, while SDG 3 aims at enabling people to escape from hazardous pollution. SDGs 6 & 7 are on clean water and energy, SDG 13 is on climate change, SDG 14 is on the marine environment, and SDG 15 is on desertification and biodiversity loss. Apart from the directly environment-related targets, industrial innovation (SDG 9) and participation in environmental governance (SDG 16) also have indirect implications for the efforts to improve the environment.

Sixthly, the 2015 Paris Agreement[17] shows great ambitions of mitigating climate change. For example, Art.4.4 suggests mandates in developed countries to reduce emissions widely and encourages developing countries to achieve this target based on different national circumstances. The consideration of the respective domestic conditions of different countries appears more than ten times (the Preamble, and Art.2, 4, 13 & 15). Therefore, policy approaches should be well designed to motivate industrial sectors to reduce emissions (Art.5.2). Climate change cannot be divorced from other environmental issues and dealt with in an isolated manner. In a word, the Paris Agreement is dedicated to promoting 'environmental integrity and consistency' (Art.4.13) through the control of greenhouse gas emissions.

Last but not least, some other international conferences and agendas in the field of environment are not mentioned in this normative recall, including the Report of the 1987 World Commission on Environment and Development: Our Common Future, the Espoo Convention on environmental impact assessment[18], the 1997 Rio+5 and 2002 Rio+10, *etc*. Still, some of the concepts may be

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and Well-being, (4) Quality Education, (5) Gender Equality, (6) Clean Water and Sanitation, (7) Affordable and Clean Energy, (8) Decent Work and Economic Growth, (9) Industry, Innovation and Infrastructure, (10) Reduced Inequality, (11) Sustainable Cities and Communities, (12) Responsible Consumption and Production, (13) Climate Action, (14) Life Below Water, (15) Life On Land, (16) Peace, Justice, and Strong Institutions, (17) Partnerships for the Goals. For details, please visit: https://sdgs.un.org/goals.

[16] For more information on how the SDGs influence climate change, please see: 17 Goals to Transform Our World, at https://www.un.org/en/climatechange/17-goals-to-transform-our-world.

[17] The Paris Agreement is a legally binding international treaty, with 193 Parties (192 countries plus the EU). Art.2 sets long-term goals to guide all nations to substantially reduce global greenhouse gas emissions so as to limit the global temperature increase in this century to 2 degrees Celsius while pursuing efforts to limit the increase even further to 1.5 degrees.

[18] The Espoo Convention, adopted in 1991 and entered into force in 1997, requires environmental impact assessment of projects that are likely to affect the environment adversely in a transboundary context. For detailed information, please visit:

discussed in the following parts where relevant. Outdated baselines or delusional views are supposed to be secondary to the far-flung ones that are closely related to the topic of environmental governance. We could, thus, safely assure that those topics discussed above cover similar visions or at least some significant thoughts evolved from the above-mentioned conference outcomes.

1.1.2 Observations of environmental instruments

Which path of development has mankind been seeking? The international agreements concerning environmental matters discussed above show a lively evolvement of environmental movement, such as changing attitudes, altering policies and adjusting practices. Through the review of a wide range of text-based historical instruments, we tend to adopt the views of the UNEP's seventh special session in 2002 on international environmental governance. Although the adopted decision failed to attract wide attention, it expresses some core elements of environmental governance, including scientific assessment, inter-agency coordination, the harmony within environmental regulations, the broader involvement of the civil society and the private sector, the adaptation of existing structures. Later international achievements such as the Paris Agreement and the Johannesburg summit reflect the visionary blueprint. Still, it is a process to lift the misty veil of environmental governance and delve into its features.

From the Stockholm to the Rio Declaration, there was a humbling change in humans' attitudes towards the environment. Instead of seeing nature as a tool to materialise our interests, we achieved a strong breakthrough of showing respect to other creatures. The environmental instruments have gradually changed the stereotype of environmental protection as an enemy of economic growth. Sustainable development is a giant step towards the alleviation of the long-standing tension, delinking environmental degradation from economic growth. Besides, environmental governance has been prioritised and considered as a solid foundation for economic and social development and prosperity for every country (UNEP 2002, 40).

The Rio Declaration provides the underpinning principles and a roadmap for action to achieve sustainable development, especially the principle of common but differentiated responsibilities and multi-level cooperation among countries, social actors and individuals. Although these ideas

https://unece.org/fileadmin/DAM/env/eia/eia.htm.

resonate well with the followers of the environmental conventions (*i.e.*, the slogan 'think globally and act locally' for Agenda 21[19]), the fit between them and global practices is limited. A good environment is the common interest of different countries. Discourse on environmental responsibilities, by contrast, involves an intense struggle to deal with the relevance and reality of environmental concerns. Some countries in the late development phase are still claiming environmental justice because developed regions took the advantage of the environment earlier and gained much progress before the environmental movement

The fundamental structure of a country's political world is the point of departure for its national strategies and laws. Hence, it is essential to maintain the integrity of one theory from the perspective of academic study, whereas it is more pragmatic to pay attention to the restoration and renewal of the disciplinary system in practice. Practical difficulties and solutions can enrich and perfect the systemic theory, thus, in turn, promoting the theory's application in practice. Furthermore, potatoes soften in the boiling water, while eggs turn harden. Materials with different internal structures show different reactions to the same surrounding. Likewise, adapting these environmental agendas according to the specific domestic conditions is necessary to foster environmental governance.

In early environmental conventions, much importance was attached to governmental functions. Environmental management is an interpretation of administrative measures. The Aarhus Convention is a turning point by setting procedures for public participation along the road. To support environmental policy-making, international organisations like the United Nations Environment Programme (UNEP) have been created to bridge the gap between countries and international organisations regarding environmental activities (Biermann et al. 2009, 8). International organisations and other non-profit organisations are considered as major participants

[19] Agenda 21, came into existence alongside the 1992 Rio Declaration, is a non-binding action plan to strive for sustainable development throughout the world. It contains four sections on Social and Economic Dimensions, Conservation and Management of Resources for Development, Strengthening the Role of Major Groups and Means of Implementation. For detailed information, please visit: https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf. For an introductory discussion, please refer to an article 'All You Need to Know about Kyoto Conference, Agenda 21 and Rio Declaration' by Arkodeep Gorai, see: https://blog.ipleaders.in/kyoto-protocol-agenda-21-rio-declaration/, last accessed: 09/03/2022.

in environmental governance. The 2015 Paris Agreement proposes that a participation mechanism centred on public and private entities should be established (Art.6.4).

Environmental governance has been taking the lead in countering unchecked environmental destruction since the 21st century (the 2002 Global Ministerial Environment Forum on international environmental governance). As an integrated part of the whole (UNEP 2002, 11), it embraces the environmental assessment and managerial activities, so as to strengthen its regime. The Environment Management Group, established in 2001[20], works on emerging environmental issues and pursue joint action and coherent approaches among its member agencies.

The internationally agreed development goals contained in the outcomes of the major UN conferences constitute the main architecture for action. What's more important is to create a real living space by implementing the existing environmental laws and policies. The international community should not only bring the environmental voice to the global platform but also unit different actors such as international organisations and states to translate commitments into action. From the revolutionary evolvement of the incremental environment-related instruments, we are likely to presume that environmental governance is a versatile regime and shapes a vision of the future to achieve the successful protection of the environment.

1.2 Defining Environmental Governance

There are multiple forms of governance [21], such as multi-level governance, participatory governance and collaborative governance. Also, governance has been applied in various fields, including medicine, market and environmental protection, *etc*. In the environment sector, 'environmental governance' is a subordinate concept of 'governance'. We need to grasp the panorama of the superordinate concept before constructing the subordinate concept. After the

[20] The UN Environment Management Group consists of members from 51 UN entities, with UNEP's executive director holding the position of chair of its secretariat. Its key ongoing programmes include coalitions on the E-waste and Combat Sand and Dust Storms. For more information, please visit: https://unemg.org/about-emg/senior-officials-meeting-som/, last accessed: 03/08/2022.

[21] For reviews of literature, please see: Biermann and Pattberg 2008, Bevir 2012, Tricker 2015, listed in the Reference.

normative introduction of international environmental instruments in former sections, this part focuses on discussing environmental governance in the international scope, which is also known as global/international environmental governance. As one of the dominant transnational problems, environmental issues have become typical topics in global governance.

Specifically speaking, when using the parlance of 'environmental management', we mainly concentrate on the role of the government. By contrast, various interdependent actors are included in 'environmental governance', while the government act as a coordinator who needs to promote the interactions among different actors and motivate them to achieve the commitments to shared goals.

1.2.1 What is (good) governance?

Good governance refers to the provision of an environment conducive to people's full enjoyment of rights and liberties (Commission on Human Rights 2005, 2). As mentioned before, international environmental instruments such as the 1972 Stockholm and the 1992 Rio declaration tend to use the term management to describe the activities concerning the environment. A key point of distinction is the underlying logic of management and governance. The term governance represents a new attitude towards the environment, naturally and anthropogenically. The governance theory arose as people showed reluctance to bureaucratic administration in the 1980s (Bevir 2012, 32), bringing greater synergies in the performance of environmental protection activities. On the contrary, under the framework of the management theory, the government, at the apex of the hierarchy pyramid, exists to control and command lower levels. The strict division and clear lines persist in the structure. High levels make decisions and create rules, implementing them one-way from the top to the bottom, while lower levels put the guidelines into practice and can obtain first-hand information in the real situation, having difficulty in making their voices heard higher levels. Given the time lag in collecting data, weighing options and giving instructions, the top management can hardly make adjustments in response to constant changes in a flexible manner. That is to say, governance strives for above-average performance (Tricker 2015, 30), while management has limitations in achieving this goal.

Governance is not narrowly defined. Inversely, it is a dynamic and inclusive notion that establishes a network to involve all social dimensions and build connections between one individual and

another (Asaduzzaman and Virtanen 2016, 37-49). By emphasising interactions among actors like governments, companies, organisations and individuals, governance initiates the functioning of the whole system. For theoretical understanding, some scholars have attempted to indicate governance in the process of collective problems. Hufty (2011, 405) believes that governance is associated with the processes of interaction and decision-making among the actors involved in a collective problem that contributes to the formation, enhancement or reproduction of social norms and institutions. Similarly, according to Bannister and Connolly (2012, 3-25), governance means the processes of social actors' exertion of power and authority, as well as their influence and enactment of policies and decisions regarding public life and economic, social and cultural developments. The understanding of governance delivers nuances, with some scholars focusing on the working mechanism (*e.g.*, Hufty addresses the mutual exchange of information and ideas) while others favouring the participant in the process (*e.g.*, Bannister and Connolly stress the role of various actors). However, the majority of them share a common conviction and tend to perceive governance as a process of tackling an intricate web of problems, which specialises in the inclusion of political power, organisational practices, corporate resources, expertise and individual opinions (Miller and Edwards 2001, 5).

Accordingly, the governance theory turns out to be a versatile blueprint to match the realities of current social movements (Biermann et al. 2009, 1). Many of its features are 'unconventional' (Bevir 2012, 42-46). As Bevir observes, governance usually combines administrative arrangements with a hybrid of market operations and non-profit groups. An innovative facet of governance is that it has improved responses to transboundary issues. When the global society is facing increasingly complex and interdependent issues, governance is the means of maintaining order in a relationship where potential conflicts can undermine or threaten the opportunity to achieve mutual gains (Williamson 1996, 12). Since dealing with the complexity is beyond the ability of a nation state alone, experts, organisations and corporations can function effectively in their rspective fields. People are linked together when grappling with global issues, such as terrorism, nuclear weapons, pandemics and climate change. No single country can solve those problems within its own jurisdiction. Different levels of governments need to operate simultaneously and cooperatively to deal with these local, national, regional and international troubles. Sundry sorts of stakeholders are actively participating in the process. For example, some non-profit organisations have been undertaking certain government functions to deliver services.

Weiss (2000, 804-805) brings the political system to the fore because the increasing interference by the state cannot be ignored. More specifically, a 'transparent, responsible, accountable and participatory government' is a sine qua non of good governance (Commission on Human Rights 2005, 2). With such a foundation, other good governance practices, including the promotion of the rule of law, responses to the needs and aspirations of people, the delivery of public services, *etc*. can be well implemented. For example, the government will act as an active standby participant in certain circumstances. Emerging industries such as self-driving cars will create a system of rules and knowledge to regulate this business. Many giant technology companies behind the auto industry will create their regulations on relevant possible problems. With the road information collected by driverless cars equipped with high-resolution cameras and Lidar, in-car computers will navigate the car rider's way to the destination. Nevertheless, here questions come: how is the driving information collected by driverless cars stored? Who will have access to the information, owners of driverless cars, creator companies or vehicle manufacturers? A possible solution to the resolution of such privacy concerns is the mutually agreed allocation of the respective rights of individuals and enterprises. Then how are these stakeholders brought to reach the common ground? Relevant laws and regulations formulated by the government are the baseline for a reasonable and fair distribution. Besides, training autonomous vehicles needs to collect traffic data, road maps and driving rules, which are either kept or established by the government. In many similar cases, governments should remain a high-readiness status and attempt to perform the proactive role of a coordinator.

Bevir (2012, 47) thinks governance can occur 'without the significant involvement of governments'. He illustrates his views with an aquaculture case[22], in which voluntary actors, private sectors and transnational organisations managed to govern fish feed by creating private

[22] It is a case concerns the governance of salmon feed ingredients in the EU. To pursue a sustainable aquaculture, the EU required aquaculture feed ingredients to meet an environmental impact test in 2002. But this requirement has no force on imported fish feed outside the EU, which takes up a large proportion of EU's fish feed market. Non-governmental actors, such as the environmental groups, supermarkets, fish farmers, and transnational organisations such as the Marine Stewardship Council and the World Wildlife Fund, made joint efforts to promote green feed. Due to the length of this thesis, detailed introduction of the aquaculture story will not be given, and only the conclusions provided by Bevir will be shared. For more information, please check Bevir, M. (2012) Governance: A Very Short Introduction, 46-55.

commercial rules and market mechanisms. Also, he acknowledges that bureaucracies still dominate public governance (Bevir 2012, 138), suggesting that the relationship between governance and government is what opponents question. Although some would say that 'governance' might be a 'weasel word' (Bevir 2012, 34) used by politicians to make empty promises, we cannot deny that in the process of governance, governments play an indispensable role. It is the diversified actors (organisations, enterprises, individuals and public authorities) that make governance different from government, which is conducted by the political institution – a participant in the process of governance. In terms of institution setting and agenda creation in the governance process, there are divergent opinions between people from the academic and those from the practical sphere opinions, but more is on the positive side.

While many analysts have shown their concerns about the blurring boundary between government and governance, some hold positive attitudes towards the role of administrative authority in the governance process. Considering the realities, Bevir (2012, 152) then indicates that the defining feature (or the aim) of governance is not to hollow out the state but to overcome its weaknesses. Governance capacity building of public sectors can improve their service delivery in terms of searching reconciliation among different fractions and promoting the compliance of commitments.

The negotiation and cooperation among plural stakeholders have been carried out via the network established by the final call of the government, remaining evolving through public participation. Some universal criteria, such as public accountability, performance efficiency and capacity building and legitimacy, are believed to 'apply at all times and in all places' (Bevir 2012, 247). Governance is popular mostly due to 'its fit with the changes in the world' (Bevir 2012, 41) and thus hailed as a panacea for the problems of modernity (Biermann et al. 2009, 2), echoing the increasingly frequent interaction among different social actors. Governments realise that market operation and network linkage are sometimes beyond their control. Hence, the inclusion of diverse stakeholders is a wise choice whereby they adopt corporative patterns in national, regional and international settings.

In a word, governance refers to the involvement of different social actors in the exertion of power to influence the resolution of political and other matters. These actors are composed of a variety of bodies, including political parties, governments, enterprises, citizens and media, while

governance objects cover all public sectors and affairs ranging from politics and economics to culture, ecology, *etc*. The governance capacity represents adaptability in response to changes, that is, the ability to reform institutional mechanisms and establish new regulations to increase the efficiency and effectiveness of all aspects of the system. Finally, governance actors, objects and capacity are three closely connected and coordinated dimensions, constituting the governance mechanism that covers the dynamic relationships among these elements.

Not every scholar treats governance in the same way, similarly, different countries employ the governance mechanism in a different way. Like the fear that governance will remain an empty slogan under the advocacy of politicians within a country, there is a criticism that global governance might become a 'universal hegemony' (Biermann et al. 2009, 1-2). Rich and powerful countries would continue their inordinate influence on the direction of global policies and modes of economic development, whereas weak countries have to move forward within the already set international guidelines inadvertently. Although strict international economic and trade rules are helpful to build a sustainable development mode, this would add a heavier burden to weak countries – those at the initial development phase. As a result, another issue of environmental injustice arises, generally existing in regional and international areas and much influenced by the profound power asymmetry between countries. The equity topic has been covered, more or less, in several international environmental instruments and will be referred to later in transboundary issues. Here, the details of environmental justice are skipped to avoid being distracted from the theme[23].

Governance diversifies our perspectives on state authority and its exercise, despite the absence of clear definitions (Bevir 2012, 158 & Biermann et al. 2009). Through a variety of descriptions and varying interpretations of governance, core elements of this notion are revealed, including participation, political system, cooperation, inclusion, non-discrimination, *etc*. Good governance

[23] For reviews of the literature, please see: Mohai, P., David Pellow, D., and Roberts, J. T. (2009), Environmental Justice, *Annual Review of Environment and Resources*, 34, 405–430; Čapek, M. S. (1993) The 'Environmental Justice' Frame: A Conceptual Discussion and an Application, *Social Problems*, 40 (1), 5–24; Schlosberg, D. (2004) Reconceiving Environmental Justice: Global Movements and Political Theories, *Environmental Politics*, 13 (3), 517-540; Walker, G. (2011) Environmental Justice: Concepts, Evidence and Politics, London: Routledge.

is perceived to be people-centred or citizen-oriented. A responsive, efficient and accountable political system is important in building governance, the process of which should be interactive and involve all stakeholders. Therefore, some environment-related factors should be extracted to build the specific narrative of environmental governance.

1.2.2 Indicators of environmental governance

The topic of environmental governance has been widely discussed in academia, mostly focusing on a single environmental problem, such as climate change, air pollution and biodiversity loss. Although scholars have described the features of environmental governance in a specific context, they are rarely interested in exploring principles applicable to other environmental fields (Gupta and Bosch 2021, 64). As a result, the strategies many scholars put forward usually target the symptoms rather than the systemic root causes.

Thinking out of the theoretical box, we can try to understand environmental governance in a practical way, which is a process of translating environmental inputs (*e.g.*, scientific research, budgets and advocacy activities) into environmental outcomes (*e.g.*, green forests, rich biodiversity, clean oceans and air) (Pinheiro et al. 2020, 10), so as to achieve a holistic view on environmental governance.

Since hollow utterances are useless for the contraction and promotion of environmental governance, we need to make substantial contributions to the fundamental theory, providing concrete benchmarks for environmental governance, especially in terms of its definition, indicators and paradigms. As discussed above, former scholars have devoted their efforts to building the theory of environmental governance. Therefore, some criteria for measuring environmental governance in one country can be proposed in this thesis by virtue of their wisdom and experiences. Without established formulations, we can, nevertheless, maintain the integrity of the theory of ‘environmental governance’ by explanations for the proposed features.

Environmental governance indicators apply to the measurement of practical situations, such as whether environmental regulations are in place, which actors are engaged in environmental matters and how to resolve environmental disputes. The proposed indicators of environmental governance are considered as follows:

A. Feasible legal regulations

Without necessary uniform guidance, it is hard to imagine living in an orderly society and interacting with others, let alone the establishment of an environment-friendly society. In an ideal law-based transaction, dealers could conduct their business activities and make commitments 'in a knowledgeable, sophisticated and low-cost way' (Williamson 1996, 121). Only under the constraints of relevant laws and regulations can social actors behave in conformity to the overall interests of social development while seeking their own interests.

The environmental rule of law lays a foundation for environmental governance (UNEP 2019, 8), combining fundamental environmental needs with the elements of the rule of law, such as clear and appropriate mandates, accountable governmental sectors and legal remedies. Abiding by these elements would improve compliance with environmental laws and narrow the implementation gap. Here, we will talk about feasible regulations first as the legal tool is a must for environmental governance.

Laws and policies are generally tied to obscure technical issues, while their interpretation, application and enforcement usually fall within the ambit of administrative and judicial branches (Bevir 2012, 228). Environmental laws and regulations will be like castles in the air if they are merely stated in books. In other words, the life of the law lies in its implementation. In this regard, environmental regulation-makers are confronted by the challenge of reaching the broadest possible audiences at various background levels to make their regulations acceptable to the public. For example, mobile phone systems are updated regularly and continuously, which usually contributes to another round of enhancement of more feasible features to improve user-friendly operations and overall performance. Introducing environmental regulations in a de jure state into the living and operational law is the key to narrowing the gap between the law on papers and in practice.

Furthermore, since clear regulations can offer people guidance, laws should explicitly define the type of contaminant and to what degree would the contamination trigger an obligation, which is to pay compensation for the damaged area, or to return the site to a clean condition. The international society has witnessed the proliferation of environmental legal instruments in past decades. Further task is to promote the quality elements of laws, like being scientific, feasible and effective.

The state should be urged to fulfil its obligations under external pressure from the international community rather than merely signing the relevant international treaties and later putting them in mothballs. Relevant government departments should also be dedicated to the formulation of environmental laws strong enough to realise the de facto enjoyment of environmental rights rather than throwing the baby out with the bathwater. With a rock-solid legal outfit, environmental departments can be better armed so that it can have a say in coordinating with other departments when faced with environmental tasks.

In general, integrated environmental problems are 'governed by sectoral, isolated, issue-based and partial legal systems' (Gupta and Bosch 2021, 59). That is to say, specific limits are set for different industries in environmental quality standards. For example, both air emission limits and soil quality standards are applicable to the disposal of a pile of solid waste outside a plant keeping decomposing, releasing pungent smell and contaminating the soil where they are deposited. Another technical issue arises, however, soil quality regulations are determined by use, like in the case where agricultural land requires higher quality than industrial zoning. We may ask which standard is appropriate for the regulation of the waste as stricter standards would bring a heavier regulatory burden. Harmonious legislation spanning multiple environmental sectors is what legislators are seeking.

We all know that identifying the problem is much easier than conceiving constructive solutions. When we are about to solve a problem, the top priority is never, nor should it be, an external and straightforward description of the targeted phenomenon, but rather an internal and logical demonstration. Although environmental governance is a tricky task, advocates should amply consider it to see whether the pragmatic approach is a better avenue. If not, what are the constructive prescriptions for the underlying problems from an overarching perspective? To address environmental challenges more effectively, environmental regulation-pragmatism shares

plausibility among substantive actors to some extent. In this case, the adaptability and feasibility of the pragmatic approach should be detailed to embody many of the often abstract-seeming solutions to environmental protection.

Environmental protection, to some extent, is part of political activities as it involves the exercise of power and the distribution of resources. On the other hand, dissatisfaction with the government seems to have permeated every section of society. Then, the dialogue between the state and citizens, functioning as the strong adhesive, is beneficial to the development of their relationship and the improvement of public acceptance of environmental policies. Unlike communication or a conversation, a dialogue primarily refers to formal talks between opposing groups. In this sense, a dialogue offers a platform for two parties to seek harmony by sharing universal values. In their efforts to establish a kind of dialogue characterised by cooperation and promotion, environmental protection documents created in the forms of initiatives, legal instruments and relevant policies will sprout and grow with teeth to play a valuable role in coordinating with departments from other fields. In this context, pragmatism refers to justifiable resilience in response to the specific milieus of states. The involved parties can express their interests through the dialogue mechanism and then propose feasible methods to seek mutual benefits.

When a country intends to formulate regulations in an emerging area, lawmakers would first set their targets and refer to similar provisions in other countries. In this case, it is a widespread phenomenon that laws fail to 'represent the conditions, needs and priorities' (UNEP 2019, 3) of the local country. Therefore, the introduction of advanced legal techniques can be favourable for the regulation of concrete problems. To achieve effectiveness, laws should reflect domestic conditions.

B. Public Participation

Public involvement in decision-making about environmental matters is the cornerstone of environmental governance (UNEP 2019, 87), contributing to the acceptability of policy documents among local communities and the enhancement of their trust in governmental sectors. Principle 10 of the Rio Declaration sets three pillars of public participation: (1) access to information. Public

authorities shall inform citizens of environmental matters broadly and appropriately. (2) access to participation in decision-making. Governments shall raise the public's awareness of environmental protection and encourage their contributions to environmental solutions. (3) access to dispute solutions. Effective remedies shall be provided both judicially and administratively. These three accessible rights almost provide comprehensive procedural guarantees. In the following paragraphs, we will probe into the three sub-indicators to understand their correlation with the primary indicator of public participation.

(1) Access to information

The public's preferences are regarded as the prime consideration when solving public problems, that is, confronting environmental challenges. Environmental policies are considered to reflect public interests if they pursue the 'sum' of the public's preferences. With the prevalence of group interests (*e.g.*, corporate interests, individual claims, elite benefits and organisational requirements), public interests should be pursued reasonably and filtered through politics (Yan and Li 2013, 10). The government needs to play its deployment role invisibly, showing some reliance on market solutions to social problems. Less emphasis on administrative institutions and more attention to social practices are also the disparities between governance and management. Governance activities involve profitable entities, voluntary groups and public sectors (Bevir 2012, 33).

(2) Participation in decision-making

Since governance focuses on decision-making (Hufty 2011, Bannister and Connolly 2012, Bevir 2012), it is of crucial importance to incorporate various stakeholders and public segments into the plans concerning environmental affairs. Whether it is the launch of new environmental projects or the refinement of programmes that have potential impacts on the environment, stakeholders' participation in decision-making should be visible throughout the process.

In the theory of communicative action, Habermas (Finlayson 2010, 103) indicates that speakers attempting to reach an agreement should assume sincerity, truth and rightness to commonly accept something as a fact, valid norms or subjective experience. Under this mechanism, the state is duly open to the bottom-up input so that their decisions can fully reflect rationality and be more

acceptable, thereby coordinating the behaviours of numerous independent actors and providing a path for social actors to act orderly without conflicts. This is the public participation governance mechanism emerging in the transition from traditional command-controlled government to the modern democratic governance model. The dialogue functioning as a strong adhesive is conducive to the correlation of the state with citizens and offers a platform for two parties to seek harmony by sharing universal values. The interests of the involved parties are expressed through the dialogue mechanism, and then feasible methods for seeking mutual benefits can be proposed. The state and citizens work together to resolve their conflicts of interests, coordinate divergent behaviours and establish a social order based on effective legal norms. By means of legislation and law enforcement, government sectors can supervise and guide the public to proceed in an orderly manner according to the division of labour. Consequently, all walks of life in society backed up by innovations in policy and governance operate orderly and flourish.

Then what are the risks of moving forward without calculating the downsides and consequences of environmental governance? It will create an impression that environmental governance practices benefit wealthier groups without considering the gains and losses of vulnerable populations. Under different conditions, each of us can be in a vulnerable position. Only when people actively fight for their rights can they carve one or more paths to make their voices heard. On the one hand, there are always conflicts among different groups over interests and demands. On the other hand, there are common interests. Therefore, according to the theory of communicative action mentioned above, a cooperative approach characterised by well-arranged cooperation between public authorities and citizens is put forward to realise environmental governance. The well-organised operation of all walks of life in society is backed up by public authorities. At the same time, considering the requirement for professionalism in solving environmental problems and the urgency of protecting environmental rights and interests, it is necessary to incorporate the connected contributions of various industries in society. Compared with ordinary people, administrative organs can respond more flexibly and effectively to social phenomena. With the incomparable advantages of public power that lead to people's reliance on the government, the government is supposed to assume more responsibilities on the issues of environmental protection.

The realisation of environmental governance requires institutionalised initiatives, and the processes of formulating environmental laws and regulations are flooded with conflicts and adjustments of interests. Environmental rights and benefits represent the underlying cores of human rights. The rights to clean air, clean water and any other environment-related resources all belong to fundamental rights. Environmental laws have set many concrete rules for resource conservation that benefits people intensively to live in a healthy and enjoyable environment while limiting their freedom to utilise natural and social resources fairly, suggesting that environmental protection requires citizens to not only defend themselves against the state but also cooperate with the state. Therefore, the realisation of environmental governance shares a similar avenue with the realisation of human rights.

French scholars have defined the game theory as the situations of conflict and cooperation between intelligent and rational individuals (or groups) with objectives generally more complex than the simple defeat of their opponents (Montet and Serre 2003, 1). Human rights, which can be regarded as a composite of diverse moral, legal, political, cultural, religious and philosophical traditions that continue to evolve and interact over time, are a function of, as well as constitutive of the chaotic kaleidoscope of global politics (Sharp 2018, 503). It should not be surprising that human rights discipline is the latent customer of the ideas developed by game theorists: the intricate multidimensionality and the supposed rationality of the state and citizens both create all the necessary ingredients for a game situation. The basic idea of the game theory is to strive for the best results in the worst situation, precisely in line with the defence and cooperation between states and their citizens in the interactive process of human rights/environmental governance realisation.

When it comes to the political sphere, the relationship between states and their citizens should be characterised as cooperation despite the long-lasting existence of a tense confrontation. Since the government is endowed by people with the power to protect their citizens, it is the state's inherent obligation to protect human rights and provide a better environment for its people. By respecting, protecting and promoting human rights, the state would gain support from its citizens. Environmental protection aims to ameliorate human welfare and safeguard human dignity by institutionalising a series of measures to avoid the abuse of power by state organs, thereby promoting the establishment of appropriate living conditions and the multi-dimensional development of human beings' environmental benefits.

(3) Access to dispute resolution

Flexible solutions can be devised by people according to specific conditions when they are trapped in disputes, including resorting to the court, asking for help in local communities, consulting pro bono lawyers for assistance, *etc*.

People usually turn to legal weapons for justice support, but justice barriers can cause untold suffering to them. Furthermore, in the light of the cumbersome legal proceedings and high fees both for the court and attorney pro-bono legal aid, legal proceedings should be away from the inappropriate influence of administrative sectors. The judicial resort should bear praiseworthy features, such as easy accessibility, timely and fair results and efficient remedies.

To construct effective, legitimate and accountable governing arrangements in the diverse institutional settings of public, private and voluntary sectors, social actors at international, national, regional and local levels must cautiously wield their power to enact policies concerning environmental issues. Vertically speaking, the mechanism should incorporate different levels of government to formulate and implement environmental instruments, while from the horizontal dimension, authorities and stakeholders at the same level must cooperate with each other to reach a consensus about the standard for environmental protection. Despite the emphasis on the political responsibility for environmental governance, individuals play a vital role in the process.

Civic engagement permeates every section of environmental governance. A sense of personal responsibility and the active participation of individuals in environment-related affairs are the prerequisites for the improvement of the quality of decision-making. By considering the ideas of citizens from different backgrounds, environmental decision-makers can incorporate the interests of various groups, including the most vulnerable ones, into relevant policies. If diverse communities perform their functions well, the outcomes of environmental protection will be fruitful. All in all, the participation of diverse populations in the process of making and implementing environmental decisions could build solid civic support, thus improving the compliance and enforcement of environmental laws and regulations.

(4) Inclusive participation

When it comes to public participation, comprehensive integration of stakeholders from all walks of life is welcomed, with more attention to the most vulnerable ones, such as indigenous people in the primeval forest, residents in underdeveloped regions and the elderly and youth in industrial areas. Following the principle of 'leaving no one behind', inclusive participation is an inherent feature of sustainable development. For example, according to principle 22 of the Rio Declaration (1992), indigenous communities play an important role in developing the environment of their traditionally inhabited areas. A UN report on protecting the rights of indigenous peoples in November 2020 shows that indigenous people account for over 6.2% of the world's population (UN 2020, 2). Due to their unique lifestyles, which are distinct from those of the majority dominating the world, there is a long-lasting conflict between humans and environmental protection, traditional cultures and modern civilisation.

A story of one nature reserve and its indigenous residents

Fanjingshan (popularly known as Big Buddha Mountain) Nature Reserve is the first forest and wildlife reserve in Guizhou Province, southeastern China. It was established in 1978 and promoted to a national nature reserve in 1986. In October of the same year, it joined the UN 'Man and the Biosphere' world network[24], and in July 2018, it was approved for inclusion in the World Natural Heritage List.

The nature reserve was established primarily to protect the ecosystems and biodiversity of the region while serving as the homeland for residents. Aboriginal people have been living in the reserve before the region was recognised by the outside world, performing their traditional production activities such as hunting and farming. Although some of their activities cause adverse environmental influence, in a sense, the area is the result of their living in harmony with the environment. The resources and biodiversity in the protected area can also be considered to have been preserved by them, or at least they have contributed to local environmental protection. Hence, native people and communities are part of protected areas, even part of their diversity. The

[24] The MAB programme is an intergovernmental scientific programme that aims to provide scientific knowledge for enhancing the relationship between people and their environments. The World Network of Biosphere Reserves currently counts 727 sites in 131 countries all over the world, including 22 transboundary sites.

governance of protected areas cannot be achieved without the participation of indigenous people and communities

Most nature reserves are well maintained and rich in biodiversity or have specially protected objects, respecting native people's choice of whether relocate or not. The reserve is zoned into the core area, the buffer area and the transition area, and the activity area belongs to the transition area. Some indigenous people choose to live in harmony with the protected area to which they have been accustomed. The reserve commission is committed to publicising advanced ideas and production methods among native residents, improving their sanitary conditions of living and introducing environmental-friendly lifestyles.

The good practice in Fanjingshan Nature Reserve reflects the maintenance of a balance between environmental protection and development. Through the joint efforts of indigenous people and the commission to achieve a win-win situation, the reserve passed the second periodic review (every ten years for a run) in 2017 for its socio-culturally and ecologically sustainable development[25].

Since far-reaching implications of environmental governance usually accompany environmental issues, some outcomes may appear in the next generation or skipped generations. We-the current generation-need to think bigger, taking into account all stakeholders, as well as the future generations. As recognised internationally, developing countries on the small islands of the Pacific have a declining capacity to respond to climate change, resource depletion and other environmental problems (Economic and Social Council 2012, 2-5), contributing the least to environmental degradation while bearing the brunt of crises. Their economic growth has been further curtailed, which perpetuates the vicious cycle of poverty and weak environmental governance. Therefore, it is imperative for international organs/governments to take a series of proactive measures for the benefit of our offspring and the most vulnerable and marginalised groups. Environment-friendly practices can be popularised in a wider range of communities if the interests of the vast majority are respected.

[25] For more details of this reserve, please visit: http://www.cecrpa.org.cn/sfcj/cjfc/201905/t20190513_702724.shtml, last accessed: 20/01/2022.

C. Coordination

The comprehensiveness of environmental resources means the broad scope of environmental governance, suggesting that environmental issues have to be solved through multi-sectoral enforcement actions rather than the efforts of a single administrative department. At the same time, environmental issues are cross-cutting and complex in nature, with solutions hidden among multi-disciplinary laws. Thus, tackling environmental issues needs not only the cross-sectoral cooperation of relevant administrative departments but also the integration of other department laws into environmental legislation and policies.

Coordination between different departments

Since governance is a process of social organisation and social coordination (Bevir 2012, 37), different social resources should be allocated to protect the environment. Despite the establishment of the ministry of environment in most countries, in practice, it is usually necessary for several departments to corporate with each other to solve one environmental problem. To decrease air pollution, for example, a reduction in the number of cars on the road can be combined with a decrease in the number of polluting plants. For the mere control of vehicle emissions, the vehicle-fuel-road integration approach can be adopted. Specifically, relevant ministries need to undertake a series of measures such as traffic measures (*e.g.*, a restriction on the number of driving cars on the road), economic measures (*e.g.*, subsidies for scrapped cars), in-use vehicle control (*e.g.*, restriction policies on motorcycles and heavy-duty trucks) and the promotion of alternative fuel vehicles (*e.g.*, electric buses and taxis). In this process, the resources of the transport department, the development authorities, the energy sector and other relevant departments are integrated to strive for the target set by the environmental ministry.

A strong environmental department is a critical booster in accomplishing environmental tasks. However, environmental authorities are usually marginalised among other administrative departments of a county (UNEP 2019, 3). Political wills focusing on the economy, to a large extent, account for the weakness of the environmental department. In most countries, environmental protection has been conflicting with economic development, accompanied by tense and prevalent

struggles. For example, air pollutants are discharged in many heavy industries, and mining would destroy the earth's face. Historically, human beings have secured survival and development through the exploitation of environmental resources instead of focusing on the conflicts between the environment and economy or negatively regarded environmental issues as by-products of economic development. On the other hand, the public is making higher environmental demands, and economic development can increase the capacity to combat environmental pollution. Human beings have stepped into a stage to take advantage of the outcomes of economic development and economic resources to protect the environment.

The whole-of-government approach

The whole-of-government[26] (also known as the joined-up government) reacts perfectly to the negative effects of single-purpose organisations. A lot of experience concerning this approach has been gained in UK and Australia since 1997 (Christensen and Lægreid 2007, 1059). Its core purpose is to integrate separate organisations to achieve the common goals pursued by the government. For wicked environmental problems, which are across public sectors, administrative levels and policy areas, the whole-of-government approach lights up the dark tunnel. Different departments tend to interpret the prescribed mandates according to their own interests, which would cause obstacles in a specific project, while the government plays a critical role in narrowing the gaps between organisations, acting as a glue, bringing together different organisational forces (including various types of organisations, groups, individuals, communities, *etc*.) and making them work together (Gao, 2017).

To deliver uniform policy decisions, the UK established a series of integrated decision-making bodies and special committees (institutions, such as the policy centre, women centre and performance and innovation group) directly under the Prime Minister's Office or the Cabinet Office. Those bodies are inter-ministerial, having different backgrounds ranging from the public

[26] For more information of the topic, please see: Halligan, J. and Jill, A. (2004) Security, Capacity and Post-Market Reforms: Public Management Change in 2003, Australian Journal of Public Administration, 63(1): 85–93. Hood, C. (2005) The Idea of Joined-Up Government: A Historical Perspective. In Joined-Up Government, edited by Vernon, B. chap. 2. Oxford: Oxford University Press. Ling, T. (2002) Delivering Joined-Up Government in the UK: Dimensions, Issues and Problems. Public Administration 80(4): 615–42.

sector, private sector, voluntary organisations, trade unions to research groups and working to deliver public services in a top-down style (Christensen and Lægreid 2007, 1061).

A prerequisite for the government to provide high-quality public services is a clear definition of the functions and objectives of each department. Also, government decisions must be unified and strategic, which can be achieved through a public service agreement between the Cabinet, government ministries and executive agencies over the strategic direction and organisational goals. Different levels of governmental sectors should conform to public service agreements. For those who fail to deliver services that meet the needs of the public, they are liable to strict performance management, which is the way to perform coordination between the national and sub-national levels.

D. Environmental expertise

'Not only are science and technology closely associated with the major causes of environmental degradation, but environmental science has also played a primary role in both detecting environmental problems and searching for workable solutions' (Fischer 2019, 59).

From air pollution to marine litter, from the ozone hole near the South Pole to melting ice sheets in the Arctic, and from the severe haze in China to soil pollution in the United States, environmental issues are in a multitude of forms, each of which has its characteristics. To deal with these problems, experts from the targeted field are supposed to identify the sources, analyse the impacts, explore the evolving procedures of relevant issues, thus figuring out their interconnections with other environmental problems. Despite such in-depth and comprehensive investigations, it is difficult to resolve one specific environmental problem at present due to its uncertainty. In this case, feasible measures need to be put into practice while expert groups explore more effective ways. Although some forward-looking and strategic action plans are subject to uncertainties and risks that may lead to the considerable gap between the actual results and predictions, the cost of inaction is far from zero and tremendous in the long run as environmental issues often come with a higher price tag. Once the situation is left as it is, the world will be confronted with catastrophes and substantial costs to rebuild the ecosystem. Under this condition,

professionals should inspect the costs and benefits of any potential alternatives to make them readily accepted by the public.

In today's society, various discussions on environmental issues are common. For instance, are we approaching a climate change doomsday? Responses to this question may be mixed. Some are more hopeful, expressing that human beings can still make right attempts to prevent the advent of people's Judgment Day. By contrast, others are not so optimistic, noting that some people in the world will bear far more of the impacts of climate change than others and are struggling to survive. The responses perfectly capture different opinions among people. Therefore, climate experts should disseminate valuable scientific information to create a reasonable information platform for the public.

When the underwater volcano in Tonga went into a massive eruption in mid-January 2020, some people were concerned that the eruption would cool the planet. Scientists calmed anxious people down, presuming a small possibility of the eruption's influence on the global climate. They observed that this eruption contained a relatively small amount of ash compared with other known catastrophic eruptions in previous centuries. In general, volcanic eruptions spew a mix of ash and gases into the atmosphere, including Sulphur dioxide (SO2), which is of particular concern due to its global cooling effect. Based on a comparison of the 1991 volcanic cloud in the Philippines, which contained SO2 of a total mass of 20 teragrams (Tg), with the volcanic cloud in Tonga and a drop of 0.5 degrees Celsius in the global average temperature on much of the Earth between 1992 and 1993 (Krishnamurthy 2022), researchers found that there was a rough amount of 0.4 Tg of SO2 in the Tonga volcano cloud. According to the measurable data, scientists have excluded the possibility of global climate cooling (Pultarova 2022)[27]. Instead of exaggerating a worst-case climate change scenario to call on people to act, we expect their reasonable participation that could have actual effects on the sustainable development of the environment.

[27] For more details about the Tonga volcano eruption and some observations of climate scientists, please see: Pultarova, T. (2022) 'Ash from Tonga volcano eruption reaches record altitude but climate cooling unlikely', retrieved from: https://www.space.com/tonga-volcano-eruption-wont-cool-climate, Krishnamurthy, R. (2022) 'Will Tonga volcanic eruption affect global climate?', retrieved from: https://www.downtoearth.org.in/news/natural-disasters/will-tonga-volcanic-eruption-affect-global-climate--81149, last accessed: 21/01/2022.

When the COVID-19 pandemic first swept globally, the lockdown policy was implemented in most parts of the world due to health concerns. The pause button was pressed, with decreased traffic, business, tourists and industrial activities, which finally contributed to a change in the global climate. It was reported that the world's daily carbon emissions decreased by 17% in early April 2020 from 2019 (Gardiner 2020). However, the level of air pollution bounced back to pre-pandemic levels in early May after the air temporarily became cleaner as Gardiner observed in Britain. Manufacturing and the transport sector are trying to recoup their losses by making every second count when lockdown measures are lifted. Climate researchers have been measuring the factors influencing emissions to see if the world can expect more long-term and substantial effects.

Global warming is still on the move while the world is being hit hard by the COVID-19 pandemic. Ice analysts reported that Canada's last intact ice shelf broke apart at the end of July 2020, losing 43% of its area. Glaciology scholars noticed an increase of 5˚C in the temperatures from May to August 2020 in the region than the average temperature from the year 1980 to 2010 (Associated Press 2020). A combination of surface meltwater and warmer ocean water may explain the breakup events. In the end, it is polar warming that is to be blamed.

All these environmental issues are technical and professional for ordinary people. Thus, we need experts to unveil the obscure surface before dealing with specific problems. Notwithstanding the existing economic, technical and political barriers to environmental protection, the era is advancing, and people's awareness of environmental protection will be raised and overcome all these difficulties. As a constant pursuit, environmental protection will become a trend that cannot be falsified arbitrarily or blocked wilfully. However, since the truth is conditional and eternal, appropriate and effective methods are needed to promote the advancement of environmental governance. Experts should pay close attention to the changes and constantly adapt to the new situation, absorb the unique experience, and confirm new results to disseminate diverse and sundry insights when tackling environmental issues.

E. A responsible government

'Accepting the administrative state as a permanent feature of the political landscape means accepting that, if environmental problems are to be solved, they must be solved in major part administratively—through more, different, somehow better administration' (Bartlett 2019, 47).

As discussed above, environmental laws and regulations need to be applied in practice. In this process, public participation requires a smooth bottom-up channel as coordinating different interests in different sectors can hardly happen without an authoritative 'coordinator'. Moreover, since environmental knowledge is disseminated via the national educational system, a responsive and competent government is essential for environmental governance. Generally speaking, politicians are responsible for launching the codification of major legal documents, with jurists providing theoretical and technical support (Lv 2021, 4). As environmental management is evolving into environmental governance, the traditional command and control model is no longer applicable to the current situation.

Firstly, a responsible government would place constraints on its power and open to checks from the third party, responding to people's environmental needs and publishing the needed information. When they receive complaints concerning environmental nuisances, like air pollution or noise disturbance, they should take investigations, keep responsive to public feedback and accommodate their suggestions on future projects.

Secondly, a competent government is capable of collecting financial and human resources, allocating them to the needed areas. Environmental authorities should conduct annual inspections of the polluting industry, for instance, whether the company has carried out environmental impact assessments as requested by law. It is also necessary to perform effective and consistent routine examinations of the compliance of production activities that might affect the environment. For non-compliance, relevant authorities are eligible to impose punishments. It is also worthwhile noting that authorities imposing such punishments should organise follow-up checks on rectifications. The end is to improve rather than punishing.

Governments, especially the central government, always act as chemical bonding between layers of lower governments or partial departments. If governmental sectors fail to implement their mandates, they will be held accountable. The legally delineated accountability is a guarantee of law implementation. For example, if a local environmental agency fails to take measures to prevent a company's environmental pollution activities, it should be blamed for the lasting pollution activities.

In this chapter, a set of properties of environmental governance have been discussed. However, it would be a worrying idea to think that 'these properties necessarily go together' (Bevir 2012, 87) without any alterations in a particular country. The real practices of one country might resemble the proposed type of environmental governance, whereas the ideal type is the one that would have pragmatic effects in real situations. The indicators of environmental governance assessment in one specific country (Pinheiro 2020,10).

Chapter 2 Environmental Governance in China

The second part is a short overview of the Chinese legal and policy frame under which environmental issues are regulated at the national level. The peculiarities of the Chinese constitutional and political setting, an indispensable background for the subsequent discussion about Chinese jurisprudence, are presented.

National policies and strategies feature prominently in a nation's governance guidelines to achieve the desired outcome. The practices of policy design and implementation are multi-faceted, in view of a range of stakeholders and the market-based mechanism involved (Kuhn 2019, 1). Government bodies in China often perform their functions under the umbrella provision of 'completing tasks assigned by the party committee and the government' (Hu 2022, 83). The boundaries of departmental duties have a distinct policy character, with no exception in environmental governance. In the governance context of China, policies are usually prioritised in the light of their fast response to realpolitik. Policy ideas are usually national goals for a given period, followed by a legislation process of implementing them when it is ripe for the placement of the ideas in the legal system. The ongoing codification of the environmental code is to concretise the national strategy of ecological civilisation and provide legal guarantee for the national goal of the harmonious coexistence of humans and nature (Lv 2021, 7-8). There are more than a dozen environment-related provisions in the 2020 Civil Code, which means the political ideas have been elevated from concrete practice to the legal level in China. It is also the embodiment of President Xi's political concept – 'clear waters and green mountains are as valuable as gold and silver mountains' (Gao, 2020), according to a member of the National Committee of the Chinese People's Political Consultative Conference.

Following the previous analysis of the differences between environmental governance and environmental management in the international arena, the environmental practice in the Chinese context is explored accordingly.

Environmental management and environmental governance are not differentiated properly in China. Though the topic of environmental governance has caused wide attention among Chinese scholars in recent years. The government has issued several important policies to promote environmental governance, like the Guiding Opinions on Building a Modern Environmental Governance System Issued by the General Office of the CPC Central Committee and the General Office of the State Council in 2020[28]. However, the concept of environmental governance gains less attention compared to its application/show-up in scholarly materials. Most scholars use the terms of management (*pinyin: guǎn lǐ,* Chinese: *管理*) and governance (*pinyin: zhì lǐ,* Chinese: *治理*) at their will. For example, Shi *et al.* (2017) discussed the effects of administrative interviews on air pollution governance. Administrative interviews refer to a system in which the Ministry of Environmental Protection 'interviews' key local government officials to urge them to strengthen environmental protection, more of a case of higher-level environmental authorities 'talking down' to lower-level governmental chiefs because of the hierarchical rank structure. As we differentiated 'management' and 'governance' in Chapter 1, the administrative interview system conveys more sense of management than governance. Shi *et al.* (2017, 90) state in their paper that 'assessing the impact of the environmental administrative interview on air pollution would be of critical significance to the improvement of China's environmental management system', suggesting that the concept of 'environmental management' and 'environmental governance' are often adopted in a mixed way.

There is also literature on environmental governance in Chinese academia. China has developed an environmental governance system based on the regulatory policy, guided by the market and supported by information tools (Liu *et al.* 2021, 22). Despite a lot of attention paid to environmental governance, what constitutes environmental governance remains a controversial

[28] The Guiding Opinions on Building a Modern Environmental Governance System (Chinese: *《关于构建现代环境治理体系的指导意见》*) aims to build an environmental governance system led by party committee, guided by the government, oriented towards enterprises and joined by social organisations and the public (Chinese: *党委领导、政府主导、企业主体、社会组织和公众共同参与*). It contains the leadership responsibility, corporate social responsibility, a community-wide action system and market system, also the supervisory, regulatory (laws & policies) and green credit aspects. For more information, please visit: https://www.mee.gov.cn/zcwj/zyygwj/202003/t20200303_767074.shtml, last accessed: 30/05/2022.

issue. In other words, there is little attention to the concrete features of the theory of environmental governance as a whole.

2.1 Environmental policies in China

The Constitution of China (the 2018 amendment) places a specific emphasis on environmental protection and regards it as a national priority [29]. It also affirms in Chapter I General Principles of the Constitution that the state is obligated to protect and improve the environment, which is one of the basic national policies [30]. There are some references in the Preamble to the Constitution (Paragraph 7), such as 'the Scientific Outlook on Development', 'apply the new development philosophy', 'promote coordinated material, political, cultural-ethical, social and ecological advancement' , which can be considered as an all-round development, 'build China into a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious and beautiful, and realise the great rejuvenation of the Chinese nation'. Such an environmental trend has swept the whole legislative arena. Correspondingly, relevant provisions on environmental protection have been formulated in the civil code, criminal law, procedural law and other departmental laws.

These expressions represent the objectives of China's environmental policy in different historical contexts. The former President Jintao Hu (presidential term: March 15th, 2003 – March 14th, 2013) and his administration, in response to a series of environmental issues accompanying the backdrop

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[29] The 1982 Constitution also included provisions concerning environmental protection, including Art. 9 'Natural resources such as mineral deposits, waters, forests, mountains, grasslands, wastelands and mudflats are all owned by the State, that is to say by the whole nation; except for forests, mountains, grasslands, wastelands and mudflats that are collectively owned by the law. The State guarantees the rational use of natural resources and protects precious animals and plants. Any organisation or individual is prohibited from encroaching on or destroying natural resources by any means. Art. 26 of the 1982 Constitution was inherited in the 2018 Constitution. Because the 2018 amendment shares similar and more advanced ideas, the 1982 Constitution was not analysed here.

[30] Article 26 of the Constitution of China (2018), 'The state shall protect and improve the living environment and the ecological environment, and prevent and control pollution and other public hazards. The state shall organise and encourage afforestation and protect forests.' See: http://www.npc.gov.cn/englishnpc/constitution2019/201911/1f65146fb6104dd3a2793875d19b5b29.shtml.

of rapid economic growth in China, proposed the Scientific Outlook on Development at the 16th the Communist Party of China (CPC) Central Committee in 2003 (Xinhua, 2012). In 2012, the CPC recognised it as one of the party's theoretical guidance[31] at the 18th CPC National Congress. The essence of the Scientific Outlook on Development is to keep up with the times and follow a pragmatic path to achieve China's economic and social development in an environment-friendly way, which shares similar values with the concept of sustainable development.

On October 29th, 2015, at the Fifth Plenary Session of the 18th CPC Central Committee, President Jinping Xi put forward the development concepts characterised by innovation, coordination, greenness, openness and sharing. 'The new development philosophy' constitutes an important content of Jinping Xi Thought on Socialism with Chinese Characteristics for a New Era. Among the five characteristics, green development is aimed at facilitating the harmonious coexistence of humans and nature[32], leaving the future generations a beautiful planet with blue skies, lush mountains, lucid waters and green fields (Xi, 2021).

In 2018, the CPC Central Committee ratified the Scientific Outlook on Development and Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, introducing them into the country's constitution. Together with other theoretical guidance of the CPC (as mentioned in Footnote 29), the above-mentioned political theories are regarded as the specific adaptations of Marxism-Leninism according to the Chinese context in a given period. We need to learn some abstractions in politics before entering the socialist society with Chinese characteristics.

In Marx's ideas, the contradiction between productivity and production relations persists in any society, yet they are manifested in various forms (Wei, 2018). In a socialist society, it is the

[31] The CPC theoretical guidance is a collection of socio-economic guiding principles in China. Except for Marxism-Leninism, the other five guiding principles were proposed by all the supreme leaders of China. The theoretical guidance collection by far includes Mao Zedong Thought, Deng Xiaoping Theory, the Theory of Three Represents (Jiang Zemin), the Scientific Outlook on Development (Hu Jintao), and Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era.

[32] For further reference, the innovative development focuses on addressing economic growth drivers, the coordinated development is about redressing imbalances, the green development is on creating harmony between human beings and nature, the open development on coordinating internal and external development, and the shared development is about social equity and justice. See: http://en.qstheory.cn/2021-07/08/c_641137.htm.

contraction between what people want and what the State can provide. Embarking on a new era, China is confronted by 'the new principal contradiction between unbalanced and inadequate development and people's ever-growing needs for a better life' (Xu, 2017), according to President Xi at the opening of the 19th National Congress of the CPC. The former assessed principal contradiction between people's ever-growing material and cultural needs and backward social productivity existed for 36 years (from 1981 to 2017). This is a historic policy shift from a focus on economic growth to an emphasis on well-rounded human development. With the satisfaction of basic daily needs (food and clothing), more and more Chinese people are in high need of high-end and high-quality products. According to a consultancy company, China will be the world's largest luxury market by 2025 (Cheng, 2022). There has been a surge in the demand for luxury items (*e.g.*, jewellery, cosmetics, fashion, leather goods and private jets for the wealth) among Chinese people. Despite continuous strict travel restrictions during the pandemic, people have been purchasing luxuries in duty-free stores or via e-commerce, indicating that people with strong purchasing power are not fully satisfied with low-quality goods. It is the imbalance between the domestic supply (mainly basic and low-end materials) and people's demand (mainly for more innovative and high-end products), which is the same case in people's demands for living conditions, such as fresher air, cleaner water and bluer sky, due to their increasing environmental awareness.

'Ecological civilisation/eco-civilisation' introduced into the national constitution is another reference to the emphasis on sustainable development. Together with the economic and social dimensions, ecological civilisation seeks to complement sustainable development from the environmental dimension. It is a Chinese political discourse aimed at changing the mode of economic and social development and human behaviour (Lv, 2021). Different from the mere concern about what is good for economic growth during the industrialisation age, eco-civilisation pays attention to what is good for humans and nature. Mechanised mass production is a key character of the industrial period, which aimed to satisfy people's material needs at the expense of natural resources, while eco-civilisation equates humans with nature and advocates their harmonious coexistence. The latter proposed in China is an attempt to reform and improve the country's accelerated development of industrialisation (Deng 2016). High-end and innovative industries can be promoted by integrating the concept of eco-civilisation (*e.g.,* low-carbon goods,

green technology and clean energy) into domestic industrialisation. The concept of eco-civilization sheds light on ecological development across various policy sectors (Kuhn 2019, 12).

Beyond its national border, China is calling on to build a community with a shared future for mankind. Inherited from the core elements of eco-civilisation, this appeal expects global partnership in tackling international issues. In the environmental area, the prospect of this expression is the worldwide cooperation targeted at a harmonious nature-human relationship. A shared future is the Earth on which we are depending, and it would benefit each state participant if all states could unite with each other in those challenging times, sharing rights, shouldering obligations and bolstering the common interest of humans and the flora and fauna on the Earth (Hu, 2012). This idea has been included in the preamble of the latest amendment to the Chinese Constitution in 2018. President Xi has also stressed the vision of a shared future for mankind on many occasions. He believes that, under the guidance of this belief, China should take an active part in global environmental governance, give full play to its advantages to provide more public goods for the world and serve as a responsible great power in the international scope (Lv, 2021).

With China's efforts devoted to ecological civilisation, the strictest system of environmental protection is being implemented. The country will formulate systemic environmental governance, which is led by the government, oriented towards enterprises and joined by social organisations and the public (Xi, 2018). The system underpins the mandates of each role in the collective environment cause, constituting a significant share of the country's governance system from the environmental perspective. The reform of natural resources and environmental management systems lies in the list of the Chinese government's resolve to optimise its administrative structure and functions (the NPC, 2018). The system highlights multi-dimensional participation. Specifically, as key drivers of the exposure of environmental pollution incidents, social organisations and the public have forced an environmental consensus in this process. Enterprises' participation is mainly realised through the market channel, such as taxation, the tap and carbon trading scheme. Besides traditional administrative measures, the environmental system incorporates many other governance canals, such as market instruments by internalising the cost of emission in the economy, credit methods through the assessment of corporates' environmental credit and the relevant legal regulations.

Apart from the enlargement of the provisions on environmental governance from the angle of environmental policy, there are improvements made to human rights documents. For example, China's National Human Rights Action Plan (hereinafter referred to as the Action Plan) (2016-2020)[33] attaches great importance to environmental issues, setting the objectives and tasks of respecting, protecting and promoting human rights from 2016 to 2020. Like the Action Plan for the period of 2009-2010 and 2012-2015, the 2016-2020 version classifies environmental rights as economic, social and cultural rights to cover the right to property, the right to education, the right to health, *etc*. Some short-term explicit treatment goals of tackling environmental problems are also listed, such as the prevention and control of air, water, soil and hazardous waste pollution, the protection of marine resources, the optimisation of the energy structure and the improvement of ecological conservation. In addition, the Action Plan itemises the legislation and implementation of environmental laws and regulations, the advancement of environmental monitoring and supervision mechanisms and the introduction of the trans-regional governance model of environmental protection in the environmental rights section.

In September 2021, the State Council, China's Cabinet, released a new version of the Human Rights Action Plan (2021-2025)[34], which contains four main groups of human rights, namely economic rights, social and cultural rights, civil and political rights and environmental rights, and the protection of the rights and interests of specific groups (*i.e*., ethnic minorities, women, children, the elderly and the disabled). It is a promising modification of the layout design by separating environmental rights from economic rights and social and cultural rights. As a result, the fresh plan endows environmental rights with the same importance as other human rights such as civil and political rights. Within the category of environmental rights, several main tasks are listed in the 2021-2025 plan, including pollution prevention (*e.g.*, air, water, soil, solid waste and household waste recycling), environmental information disclosure (*e.g.*, open government and corporate

[33] The National Human Rights Action Plan of China (2016-2020) is the third Action Plan formulated by the Chinese government, after the first one for 2009-2010 and the second one for 2012-2015. It is compiled by the State Council and the Ministry of Foreign Affairs of China.

[34] In addition to the promotion plan of the four types of human rights, the Human Rights Action Plan (2021-2025) contains other three parts: human rights education and research, China's participation in global human rights governance, and the implementation, supervision and assessment of the periodic plan.

information disclosure), public engagement in environmental decision-making (*e.g.*, environmental impact assessment and environmental matters), environmental public interest litigation and compensation for damage to the ecological environment, ecological conservation and restoration of land space (*e.g.*, the establishment of a national-local interconnected monitoring and supervision platform for important ecosystem protection and restoration projects and the ecological governance of key areas such as the Qinghai-Tibet Plateau Ecological Barrier Zone and the Yellow River Key Ecological Zone) and climate change resolution (*e.g.*, carbon peak and carbon neutrality targets and international cooperation).

An observation of the environmental policies in China

As a concept in political ecology and environmental policy, environmental governance advocates that sustainability (sustainable development) be regarded as the priority in the management of all human activities, including political, social and economic ones. Some comprehensive programmes are often hindered by difficult-to-coordinate fragmented interests. In response to this diversity of elements concerning different issues, specific systems of governance are often adopted in environmental governance. Facing the rising demand for cross-border environmental protection, China set a joint prevention and control mechanism in various areas. Also, with accelerating urbanisation and industrialisation in China, the regional economic integration of its urban agglomerations, such as the Guangdong-Hong Kong-Macao Greater Bay Area (the Greater Bay Area in south-east China)[35], the Yangtze River Delta (in the central coast of China), the Beijing-Tianjin-Hebei region (in the northern coast of China) and the Chengdu-Chongqing region (in south-west China) has been constantly deepening. Therefore, cross-regional air pollution, mainly seasonal haze and cross-basin water pollution, occur frequently in these urban cluster areas.

Cross-regional air pollution control (the Beijing-Tianjin-Hebei region)

[35] The Greater Bay Area comprises two Special Administrative Regions of Hong Kong and Macao plus nine municipalities in Guangdong Province including Guangzhou, Shenzhen, Zhuhai, Foshan, Huizhou, Dongguan, Zhongshan, Jiangmen and Zhaoqing. The Greater Bay Area was first appeared in a framework agreement signed by the three provincial governments in 2017. The Area is a major cross-regional project, with a total area of around 56 000 km^2, a population of over 86 million and a GDP of US$1668.8 billion in 2020.

Since 2013, every autumn and winter, many places in China, especially northern provinces, have to undergo an occasional devastating haze. The year 2013 is regarded as the first year of haze control (Zuo 2020) when China was hit by the then worst smog weather since 1961 (see Figure 2.1). In January 2013, large-scale smog swept across the country four times, involving 30 provincial areas. People in many cities mocked the PM 2.5 (fine particulate matter of 2.5 micrometers or less in diameter) index as an 'explosion', which means that the high index value is out of the monitor's measuring range. According to a report, a recorded PM 2.5 value was up to 1000 μg/m^3 in Harbin (a north-eastern city in China) where people walking outside can only 'hear the sound without seeing the person' (Zhang *et al*. 2013). The 2013 annual average PM 2.5 concentration in Beijing was 89.5 μg/m^3 (UNEP 2019b, 4), highly exceeding the maximum limit of 35μg/m^3 set by the World Health Organisation[36]. These values showed that there was an urgent need to reduce air pollution in the Beijing-Tianjin-Hebei region.

[36] The World Health Organization has updated the guidelines on outdoor air pollution levels, firstly set in 2005. The updated guidelines state that the annual average concentrations of PM2.5 should not exceed 5 μg/m3, while 24-hour average exposures should not exceed 15 μg/m3 more than 3-4 days per year. Interim targets for PM2.5 are: 35 μg/m3 annual mean, 75 μg/m3 24-hour mean; 25 μg/m3 annual mean, 50 μg/m3 24-hour mean; 15 μg/m3 annual mean, 37.5 μg/m3 24-hour mean; 10 μg/m3 annual mean, 25 μg/m3 24-hour mean. For reference: WHO Air Quality Guidelines, please visit: https://www.c40knowledgehub.org/s/article/WHO-Air-Quality-Guidelines?language=en_US, last accessed: 01/21/2022.

Figure 2.1 Tourists on the Tiananmen Square under the smog, on December 24th, 2013

Source: Photos by *王跃岭* [Wang, Y.], issued by Xinhua News Agency.

In response to the severe air pollution, therefore, the government issued relevant standards for air quality control. The current ambient air quality standards of China were updated in 2012 and came into force in 2016 as the first limitations on Chinese people's exposure to PM 2.5 concentrations, with a 24-hour average limit of 75 μg/m^3 and an annual average limit of 35 μg/m^3 (the 2012 Ambient air quality standards of China). For the PM 2.5 exposure concentration obligation based on a 24-hour average, the US, Japan and Singapore use 35 μg/m^3 as the standard, while Australia, India and Bangladesh adopt 25 μg/m^3, 60 μg/m^3 and 65 μg/m^3 as the standards, respectively (Mu 2019). Compared with other regions, China set the lowest standard by adopting the first interim target recommended by the UN. Still, citizens plagued by haze, mainly PM 2.5, can finally expect a ray of hope that flickers behind the invisible air.

In September 2013, the State Council issued an Action Plan on Air Pollution Prevention and Control (also known as Ten Articles on Atmosphere), which is mainly aimed at inhalable particles and set a special target for Beijing to control the annual average concentration of fine particulates at about 60 μg/m^3 till 2017. Since then, the regional air pollution control has been gradually changed from working alone (within the specific administrative regions) to joint (cross-region)

prevention and control. To further deepen the joint work, a regional atmospheric administration was established in 2017 to address the air pollution in the Beijing-Tianjin-Hebei region and its surrounding areas.

In 2020, the average annual concentration of PM2.5 in Beijing was 38 μg/m^3, which was much lower than the 2013 value of 89.5 μg/m^3) and close to the national limit of 35 μg/m^3 for the first time (Voice of Beijing Environment, 2021). In May 2020, the first regional collaborative atmospheric legislation on the Prevention and Control of Emissions from Motor Vehicles and non-road Mobile Machinery was jointly launched in China by Beijing, Tianjin and Hebei Province (Tai *et al.*, 2020). The three provincial administrative regions established the corresponding implementation mechanisms, such as the data sharing of over-standard vehicles, the collaborative sampling and inspection of new vehicles and the joint enforcement and supervision of in-use vehicles, to combat mobile source pollution.

However, in mid-March of 2021, Beijing citizens witnessed another hit of particulate matter (see Table 2.1), which was titled the strongest dust storm in the past decade (Wen and Liu, 2021). A meteorologist working in the national meteorological administration announced that the dust storm was triggered by a violent snowstorm in Mongolia, stating that it was not a normal weather event but a combination of local dry weather and strong winds from the sand source. The loose soil along the proceeding way, joined by the sand, exacerbated the sandstorm. That is to say, the sandstorm in March 2021 is not a separate incident. Originated Mongolia and aggravated by the domestic soil conditions, it is an example calling for multi-national cooperation.

Table 2.1 PM2.5 concentrations by district in Beijing in March 2021 (unit: μg/m^3)

Rank	District	Monthly average concentration	Rank	District	Year-on-year change
排名	区	月均浓度	排名	区	同比变化
1	延庆	76	1	开发区	116.2%
2	平谷	77	2	大兴	119.4%
3	大兴	79	3	平谷	120.0%
3	密云	79	4	顺义	126.3%
5	开发区	80	5	通州	133.3%
6	东城	83	6	丰台	136.1%
6	怀柔	83	6	房山	136.1%
8	通州	84	8	东城	137.1%
8	西城	84	9	朝阳	140.0%
8	朝阳	84	10	石景山	141.7%
11	房山	85	11	延庆	145.2%
11	丰台	85	12	海淀	145.7%
13	海淀	86	13	西城	154.5%
13	昌平	86	14	密云	154.8%
13	顺义	86	15	门头沟	163.6%
16	石景山	87	16	怀柔	167.7%
16	门头沟	87	17	昌平	168.8%

Source: Beijing Municipal Ecology and Environment Bureau, accessed via http://sthjj.beijing.gov.cn/bjhrb/index/xxgk69/sthjlyzwg/1718880/1718889/10974500/index.html.

Note: The third column in the table is the monthly average PM2.5 concentrations of each district, which range from 76 to 87 and are much higher than the maximum standard of 75 μg/m^3 within 24 hours set by the UN.

Some impacts of the introduced national policies and agendas are prominent – the continuity of strategies[37], which is one of the characteristics of China's single ruling party, which sticks to the combination of the general truth of Marxism and the actual situation in China. This political ideal has been endorsed and strengthened during the country's development. Facing the ongoing issues, high-level governments will modify their political guidelines. In particular, environmental matters are under the spotlight of the present political world and not expected to decrease in the foreseeable future. Besides, some of the focal environmental policies have been and will be legalised in China to achieve a sustainable environment.

2.2 Environmental laws and regulations

Currently, China has a series of laws regulating activities that may affect the environment. The EPL, for example, is the foundation for all the environmental laws. Other laws were formulated to handle specific environmental factors, such as water and air pollution control law and wetland protection law. Apart from these special environmental laws, some related provisions are included in other branches of law. In criminal law, for instance, there are 9 provisions on the crimes in violation of the protection of environmental resources, including the arbitrary disposal of toxic and hazardous substances, the import of offshore solid waste, non-compliance with the fishing ban and other damage to wild animals, forests, agricultural land, national park and mineral resources. Some of the relevant articles in different law branches will be mentioned in Chapter 3.

According to Article 9 of China's Civil Code (2020), 'Any civil activity conducted by civil subjects shall be conducive to resources saving and ecological environment protection'. As one of China's most important legal instruments, the Civil Code is composed of seven divisions, namely general provisions, property rights, contracts, personality rights, marriage and family, inheritance and tort liability. The principle of ecological environment protection, which has been crowned as the Green Principle by academics (Lv, 2020), is included in Article 9 under chapter I General Provisions. It

[37] As Kuhn, B. commented on the ecological civilisation in China, 'From an environmental policy agenda point of view, China's 2018 constitutional amendment allowing for an extension of the president's mandate somewhat guarantees a continued high-level commitment', p.11.

is a response from the sectoral law to the Constitution. Meanwhile, the Civil Code is a practice of President Xi Jinping's thought on ecological civilisation – 'China will follow the concept of respecting, adapting and protecting the nature and implement the basic state policy of conserving resources and protecting the environment…to leave future generations a good environment with blue skies, green lands and clear waters (Lv, 2020). Traditionally, the civil code around the world follows the ideas of party autonomy and contractual freedom, which results in highly personal freedom that places fewer constraints on people's requests for nature and thus leads to a dilemma between human beings and nature. As a latecomer, the Civil Code of China could learn from the experience of its predecessors, digesting the liberalism's 'rejection of environmental protection' (Lv, 2020) in a traditional civil society and paving its way to 'a beautiful China' (the Preamble to China's Constitution, Paragraph 7) in the legal texts. Article 9 reflects the core values of the civil legal system and provides the measurement for civil activities.

Furthermore, there are 17 articles in the sub-chapters of the Civil Code (2020) with the corresponding provisions under the guideline of the green principle set out in Article 9. The property rights section regulates common environmental problems in people's daily lives and hinders people from offending others' rights when they exercise their own rights. For example, individuals shall not obstruct the ventilation, light and daylight of adjacent buildings when constructing a building (Civil Code, Art.293). This provision sets the boundaries for environmental disputes by placing restrictions on personal activities and providing a legal basis for individuals' compensation claims. As for activities causing no harm to involved parties, environmental interests are prone to a no-one-care status. The contracts section puts an environmental protection ceiling for the performance of the parties and prevents them from wasting resources (Civil Code, Art.509). In a deal, the seller shall adopt an environmentally friendly method of packaging under the protective conditions for the object of the contract (Civil Code, Art.619). As economic activities are also subject to environmental obligations. In the section of tort liability, seven articles (Civil Code, Art.1229-1235) are listed to regulate environmental pollution and ecological damage, including the punitive compensations for environmental torts (Civil Code, Art.1232), the subject to claim compensation for eco-environmental damage (Civil Code, Art.1235), *etc*. Other environment-related provisions will be discussed in the following case study chapter. In this section, the focus is on laws and regulations exclusively dedicated to the environment.

China's current Environmental Protection Law (the EPL), amended in 2014 and becoming effective in 2015, sets out the fundamental principles and basic systems of environmental protection and addresses common issues in this field. The amendment to the EPL, as the first one since its enactment in 1989, has gone through four hearings, which were rare and broke the previous legislation convention of 'three hearings before pass'. The strict and lengthened procedures suggest more comprehensive considerations in the legislative text. With the increased responsibilities and penalties imposed on the government, business and the public, the 2014 EPL was dubbed by the media 'the toughest environmental protection law ever' that 'declared war on pollution with the rule of law' (Wang 2014).

Environmental protection has been elevated to an unprecedented level since the ecological civilization was proposed on the 18th National Congress of the CPC in 2012 (Wang 2014). As an expert explained in Wang's report, a real breakthrough in China's environmental doctrines was achieved under the national eco-civilisation strategy, evolving from the end-of-pipe control in the 1970s to a combination of prevention and control in the 1980s, the process control in the 1990s and now the priority of protection. Art.14 requires the policy formulation departments to conduct environmental assessments of policies[38], which would largely alleviate institutional deficiencies.

The 2014 revisions to the EPL introduced public interest litigation to environmental lawsuits filed by social organisations in Art. 58 (more details of this provision are covered in Guiding Case No.75 in Chapter 3). According to an officer of the legislative department, it is the public opinions that contributed to the introduction of public interest litigation into the law. The response to people's concerns has strengthened the acceptability of the provisions and made them easier to comply with. Since social organisations cannot attend to the whole range of national and public interests, the people's procuratorates (refer to the procurator's office in China) serve as a complement to the regulation, involved in public interest litigation. The Civil Procedure Law and the Administrative Procedure Law empower the people's procuratorates with the standing, when there are no eligible entities, to deal with public interest litigation in the areas of environmental and resources protection,

[38] Article 14 of the EPL 'the relevant departments of the State Council and the governments of the provinces, autonomous regions, and municipalities directly under the Central Government shall give full consideration to environmental impact, and listen to proposals from stakeholders and experts when organising and formulating the economic and technical policies'.

food and drug safety, state-owned property protection, state-owned land-use rights transfer and heroes' and martyrs' rights and interests protection.

In terms of the administrative authority in China's domestic context, the EPL (2014) also strengthens government responsibility by stipulating that local governments at all levels shall be responsible for the environmental quality of their administrative regions in Art.6. To make the law strong enough, the prescription for taking the blame and resigning by the relevant government officials who fail to perform their duties is added in Art. 68. Other regulations are also involved, such as pollution prevention across administrative regions, resource recycling and information disclosure. In the following empirical analysis of environmental cases, these regulations will be introduced in detail.

Apart from the fundamental environmental law, there are a number of laws centring on specific environmental elements, such as sea, water, air, solid and noise. Since the reform and opening-up policy (a policy of internal reform and opening up to the outside world that was introduced in China in December 1978), environmental legislation has been on the fast track. A large number of different forms of legally binding instruments have been published in China. According to Lv (2021, 6-7), around 42 laws, 60 administrative regulations, 1200 national standards and other legal documents have been formulated in China's environmental area.

Table 2.2 Key laws in the environmental field in China [39]

[39] Titles of the specific law are simplified in the table, though they change slightly in different versions. The full official title goes: Marine Environment Protection Law, Law on the Prevention and Control of Water Pollution, Law on the Prevention and Control of Atmospheric Pollution, Law on the Prevention and Control of Environmental Pollution by Solid Wastes, Law on the Prevention and Control of Environmental Noise Pollution (replaced by the 2021 Noise Pollution Prevention and Control Law), *etc*.

Title of law	First adoption	Revised time	Title of law	First adoption	Revised time
Environmental protection law	1989 (1979 pilot)	**2014**	Wild animals	1988	2004/2009/ **2016**/2018
Marine protection	1982	**1999**/2013/ 2016/2017	Solid waste	1995	**2004**/2013/ 2015/2016/**2020**
Forestry law	1984	1998/2009/ **2019**	Coal law	1996	2009/2011/ 2013/2016
Water pollution	1984	1996/**2008**/ 2017	Noise pollution	1996 (1989 regulation)	2018/**2021**
Mineral resources law	1986	1996/2009	Soil contamination	2018	/
Air pollution	1987	1995/**2000**/ **2015**/2018	Wetland protection	2022	/

Source: the official websites of various governmental departments, updated by the author.

Notes: 1, The above table focuses on different laws for reference, with some administrative regulations and pilots presented in parenthesis. Here, the narrow interpretation of the concept of law is adopted. Laws are made by national legislatures, that is, the National People's Congress or the Standing Committee of the National People's Congress in China, while administrative regulations are made by the State Council and have lower legal authority than laws.

2, In Chinese legislative practice, changes in law are mainly in the form of revisions (pinyin*: xiūdìng*, Chinese: *修订*) and amendments (pinyin: *xiūzhèng*, Chinese: *修正*). Revisions are more extensive and require a comprehensive adjustment of the system, principles and provisions established by the existing laws, whereas amendments are less extensive and only involve the modification of certain aspects, parts or individual articles and phrases of the existing laws (Oxford Dictionary defines 'amendment' as a small change or improvement to a document or proposed new law). To identify the changes in law, the revision time is displayed in bold in the above table.

There are overlaps in a large number of laws. A typical example is the EPL, which has more than 30% provisions similar to the laws on air, water, solid waste and noise as the general law in the environmental area of China (Lv 2021, 7). Different draft laws have been proposed by different administrative bodies because of the technical issues in legal text drafting, which may lead to conflicts as each drafting department usually focuses on its own departmental interests. For example, the state forestry administration is responsible for drafting the forest law, while the natural resources authorities are in charge of the formulation of the mineral resources law. Although there would be a series of adjustments to the first version during the legislative process, the responsible authority has a say in the final version after collecting and weighing the legislative proposals from the public. As a result, environmental legislative texts focusing on different environmental elements usually involve various stakeholders. Additionally, the enactment time of different laws varies, with many of them having been revised more than twice. In the above table, the first soil contamination law was issued in 2018. Previously, soil pollution was regulated by the Land Administration Law (1986), the Law on Water and Soil Conservation (1991) and other relevant laws. Compared with the law on water and air, the soil contamination law was enacted in a delay of more than 30 years. Also, the law on solid waste has been revised five times after its enactment. The basic system of environmental protection that could have been harmonised is scattered in different single-ended environmental laws, which caused many inconsistencies in the application procedures and conditions, as well as punishment forms, and thus led to difficulties in environmental enforcement and justice (Lv 2021, 7).

The factor-based legislation causes the current legislative models of environmental resources to fall into different legal divisions. To be more specific, the fragmentation, repetition and contradiction persisting in legal texts have induced many difficulties in achieving all-round environmental protection by enumerating specific factors. The academic world has been arguing about the existing problems for a long time and suggested the establishment of a unified legal document (Wang 1995, Cai 1998, Qu 2004, Wang 2004, Zhang 2008 & 2013). In particular, Wang (2004, 478) indicated that some basic elements of the Environmental Protection Law (*e.g.*, the legislative objectives, principles and application scope) could be viewed as the general rule in the future environmental code, and the single-ended laws could be incorporated into the code as sub-chapters. A systematic, holistic and coordinated environmental legal framework is needed to build modern environmental governance (Lv 2021, 6). The NPC Standing Committee, China's

legislature, has incorporated the codification of the environmental code into its 2021 legislative work agenda[40]. At present, China has only one code -- the Civil Code in terms of its legal system. As a response to political needs, the launch of the environmental code could shape the national environmental governance system.

Vertically, national and local environmental legal regulations also lack consistency. National laws have the highest level of authority over local ones. Normally, local provisions cannot conflict with national laws. Considering the UN has recognised the right to a healthy environment in October 2021, we may wish to review the relevant provisions in the Chinese legal framework.

Since the national constitution and environmental laws have not recognised the right to the environment so far, regulations at the local level cannot take precedence over the national constitution and laws. A comparison between provincial legislation and the national environmental protection law shows that national and regional environmental law/regulations generally stipulate procedural environmental rights in the forms of participation in decision-making about environmental matters, acquisition of environmental information, supervision of environmental protection work, reports on environmental pollution and accusation of environment-damage behaviour. The obligation to protect the environment and prevent pollution has been underlined within all environmental laws/regulations.

'The right to enjoy a good environment' has been stipulated in the environmental protection regulations of some provinces, such as Guangdong Province whose GDP perennially ranks in the top three among the 34 first-level local administrative regions and Ningxia Hui Autonomous Region and Guangxi Zhuang Autonomous Region whose economy is backward. The 2001 version of Shandong provincial environmental regulation also provides that 'citizens shall enjoy the right to enjoy a good environment' (Art. 6). Surprisingly, this provision was deleted in 2018. Similarly, Shenzhen, a sub-provincial city of Guangdong Province also known as the first 'special economic zone' in China and possessing a more liberal model to attract more foreign investment, had its municipal environmental regulation recognising individuals' right to live in a good environment

[40] The 2021 legislative work agenda was published on the NPC website (21/04/2021). For more information, please visit: http://www.npc.gov.cn/npc/c30834/202104/1968af4c85c246069ef3e8ab36f58d0c.shtml.

from 2017 to 2021. However, this provision was deleted in the 2021 Shenzhen Special Economic Zone Ecological and Environmental Protection Regulations, which replaced the former environmental protection regulation. It should be noted that the expression of 'the right to enjoy a good environment' here (pinyin: *gōng mín yǒu xiǎng shòu liáng hǎo huán jìng de quán lì*, in Chinese: *公民有享受良好环境的权利*) bears similar characteristics as the internationally recognised right to a healthy environment. The stipulation of this right in these regional environmental regulations indicates that there is a certain degree of preference for recognising the right to the environment[41], even though it has not been nationally accepted yet.

Ningxia is one of the five autonomous regions (shown in green in Figure 2.2) with a large number of Hui ethnic minorities inhabit. Located in north-western China, this region has long been beset by the serious desertification problem. Despite its relatively backward economy, it has the right to enjoy a good environment legalised to enhance the protection of the local environment. Based on its specific local circumstances, the relevant cities and counties are tasked with a water pollution-prevention project in the Ningxia section of the Yellow River basin in the 2019 Ningxia Environmental Protection Regulation (Art.28)[42], fencing certain mountain areas to prohibit

[41] The Chinese environmental law community have been debating about the recognition of the right to the environment for decades, and this has largely influenced in law- and policy-making. For literature supporting the recognition of the right, please refer to Cai, S. [蔡守秋] (1982) '环境权初探 [On the right to environment]', 中国社会科学 [Social Sciences in China], 3, 29-39; Cai, S. [蔡守秋] (1999) 环境政策法律问题研究 [Study on the legal issues in environmental policy], 武汉: 武汉大学出版社 [Wuhan University Press], 84- 96. Lv, Z. [吕忠梅] (1995) '论公民环境权 [The right to environment]', 法学研究 [Chinese Journal of Law], 6, 60-67. Wang, S. [王树义] (2012) 环境法基本理论研究 [Study on the grounded theory of environmental law], 北京: 科学出版社 [Science Press], 135-138. Wu, W. [吴卫星] (2017) '环境权入宪的比较研究 [Comparative study on the recognition of the right to environment]', 法商研究 [Studies in Law and Business], 4,173-181; For literature against the recognition of the right, please refer to Xu, X. [徐祥民] (2004) '对 "公民环境权论" 的几点疑问 [Doubts about "the right to environment"]', 中国法学 [China Legal Science], 2, 109-116. Zhu, Q. [朱谦] (2007) '反思环境法的权利基础——对环境权主流观点的一种担忧 [Concerns over mainstream views of the right to environment]', 江苏社会科学 [Jiangsu Social Sciences], 2, 140.

[42] Art.28 of the 2019 Ningxia Environmental Protection Regulation stipulates that governments of the autonomous region should compile a water pollution prevention plan for the Ningxia section of the Yellow River. Accordingly, governments at the city and county level in the watershed of the Yellow River should formulate water pollution prevention plans in their respective administrative regions to improve the water quality of the Ningxia section of the Yellow River. Where there are no national standards for the discharge of water pollutants, local standards for the discharge of water pollutants should be set; where national

grazing[43] (Art.27). On the one hand, there are merits in Ningxia's environmental regulation. On the other hand, it contains shortcomings in people's access to information. Although it requires that local governments and its environmental authorities should timely publish the relevant information on emission standards, total control targets, major environmental violation cases and the handling of environmental emergencies (Art.9), it does not stipulate clearly that the public has access to environmental information as the regulations in Shanghai, Guangdong and Shandong provinces do.

Yunnan province, located in southwest China, possesses the largest variety of plants in China, with a wide range of landscape including plateaus, mountains, basins, hills and plains. This diversified ecological environment is in need of a comprehensive and scientific environmental regulation that can respond to practical problems. Issued in 2004, the current environmental regulation of Yunnan Province is significantly lagging behind the 2014 national environmental law in terms of its amendment. Many other provinces have amended their respective local environmental regulations, some of which even have had four amendments since 2014. For example, Ningxia revised its environmental regulation in 2016 and 2019, respectively, and Guangdong published the 2018 and 2019 revisions as well (see Table 2.2). In particular, Shanghai, as the fastest-growing major city in the richest eastern coastal area and one of the four municipalities in China, has been in pace with the practical environmental conditions and the national environmental laws and policies by updating its local environmental regulation frequently.

As shown in Table 2.3, the 2004 Yunnan environmental regulation has a few provisions on environmental rights. Apart from the right to report violations, the public is obligated to protect the environment. However, the 2004 version stipulates nothing relevant to public participation. In January 2022, the latest draft law was posted on the website of Yunnan Provincial Department of

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standards exist, local standards that are more stringent than national ones can be set.

[43] Art.27 of the 2019 Ningxia Environmental Protection Regulation states that 'Governments at or above the county level shall designate certain areas as ecological function reserves, including nature reserves, scenic spots, lakes and wetlands, as well as mountain areas with grazing bans, returning farmland to forests and grasses, small watershed management and other ecological areas in need of protection. Any construction and other activities that may lead to degradation of ecological functions in the protected areas shall be prohibited. Governments shall take measures to prevent damage to the ecological environment and deal with desertification.'

Ecology and Environment to invite the public to propose feedback within a one-month timescale[44]. The draft contains a specific chapter of information disclosure and public participation, which is huge progress in comparison with its existing 2004 environmental regulation. Although the Inner Mongolia Autonomous Region revised its local regulation in 2018, it does not specify citizens' participatory rights, either, and information accessibility is only implicitly referred to in Art.22 requiring that entities should inform residents of the possible impacts of pollution[45].

Apart from the listed areas in Table 2.3, many other provincial regions contain similar rights related to the environment, including Jilin, Jiangxi, Liaoning, Sichuan, Anhui, Shaanxi, Guizhou, Hunan and Chongqing. Generally speaking, local regulations cover the obligation to protect the environment, the access to environmental information, the participatory right, the right to report, oversight and advice and other procedural environmental rights. Besides the right to a healthy environment, the legislative differences lie in the attitudes towards public participation, information accessibility and the right to file environmental public interest litigation, as shown in the cases of Ningxia and Yunnan. Different regions set their own priorities, mainly based on the different phases of economic development, the fragility of the local ecological environment and the importance attached by local governments to environmental protection. These legislative differences show the different primary focuses of these regions, as well as the deficiencies to be improved.

[44] For more information, please visit: http://sthjt.yn.gov.cn/zwxx/zfwj/gsgg/202201/t20220125_228870.html, last accessed: 16/03/2022.

[45] Environmental Protection Regulations of Inner Mongolia Autonomous Region (2018), Art. 22 'The entity caused or is likely to cause pollution as a result of an accident or other emergency must take immediate measures to deal with it, promptly notify relevant organs and residents who may be endangered by the pollution, and report to the local environmental department and other administrative authorities'.

Table 2.3 A legislative comparison of environmental rights in national provisions with those of local provisions

National and Local Environmental Protection laws/regulations	update time ①	the right to enjoy a good environment	the obligation to protect the environment	the access to environmental information	the right participate in environmental activities	The right to monitor relevant activities & report environmental violations	the right to file environmental public interest litigation
Environmental Protection Law of China	2014	/	Art. 6	Art. 53			Art. 58
Shanghai Municipality	2015/2016/ 2017/2018	/	Art. 5				Art. 64
Guangdong Province	2015/2018 2019	Art. 5					Art. 18
Yunnan Province	2004	/	Art. 5	/	/	Art. 5	/
Ningxia Hui Autonomous Region	2016/2019	Art. 7		/	/	Art. 7	/
Shandong Province	2018	/	Art. 9			Art. 9, Art. 64 & Art. 65	Art. 66

Source: The official website of respective provinces, updated by the author.

Notes: The Environmental Protection Law of China enjoys nationwide authority, while local regulations are only workable in their own regions.

① Normally, local legal instruments would be updated with the revision of national laws. It is worthwhile to note how local regulations respond to the 2014 revision of the national environmental law. Therefore, the revisions of local environmental regulations after 2014 were tracked in this paper, except for Yunnan Province whose latest revision was in 2004.

Figure 2.2 Map of China

Source: https://www.researchgate.net/profile/Dan-Rickman/publication/320450152/figure/fig1/AS:960020489461760@1605898129388/Map-of-Chinas-administrative-divisions-Source_W640.jpg.

From policy-making to legislation – the bridge of environmental experts

High-profile environmental concerns at a higher political level have accelerated the process of environmental legislation towards a greener future. The arrangement of the Draft Ecological Environment Code of China, the first proposal from the environmental academic sector available for the legislature for reference, was published in 2021 (Lv 2021, 3-17). Moreover, the environmental code legislation led by Prof. Lv, a prominent scholar in environmental law and the chairperson of the Environmental Resources Law Research Society (a branch of the China Law Society[46]), is ongoing. The idea of sustainable development, as a basic concept, connects different

[46] The China Law Society is a national association and an academic jurisprudence association, which conducts academic exchanges

parts of the draft together. The sub-chapters unfold in a logic of social sustainability, ecological sustainability and economic sustainability. Sustainable development entails a broader responsibility for future generations and nature, emphasising that the law should better reflect the common good and promote an environment of health and well-being. Thus, it is unwise to force environmental protection to take a back seat to economic development following the principle of sustainable development. Governments need to develop a holistic and integrated approach to balance the environment and economy. The public authorities should assume the primary responsibility for ensuring ecological and environmental public good, while forming a broad social mobilisation mechanism.

The expert proposal consists of seven parts (totally 1,035 articles), including general provisions, pollution prevention and control, natural ecological protection, environmental protection in the exploitation of natural resources, energy conservation and comprehensive utilisation of resources, circular economy and comprehensive utilisation of waste and climate change resolution[47]. The proposal establishes a systemic environmental legal mechanism by the selective inclusion of the existing laws and regulations, as well as some adjustments to the vested legislative problems and innovative regulations. For example, the environmental legal framework lacks direct regulations on light and heat pollution and vibration prevention. However, the relevant disputes are not rare along with the progress of urbanisation and the strong criticism of citizens. The legal experts reveal the phenomenon in the second part of pollution prevention and control by adding provisions on light pollution in super tall buildings. Then the general provisions are divided into four sub-sections: basic regulations (*e.g.*, the relationship between the environment and economy, environmental education, international cooperation and financial input), basic systems (*e.g.*, environmental quality standards, the policy environmental impact assessment system, the environmental administrative permit system, the eco-environmental monitoring system, the coordination mechanism of cross-administrative regions, the target responsibility and assessment system for officials and the environmental rights and obligations of enterprises), information

and develops friendly relationship with legal organizations outside China.

[47] The expert proposal of Ecological Environment Code of China was published in December 2021. Information on the draft is publicly available via http://www.legaldaily.com.cn/government/content/2022-01/04/content_8652190.htm.

disclosure (*e.g.*, the public access to environmental information and the content, procedures and principles of environmental information disclosed by governments and enterprises) and public participation (*e.g.*, the principles, the right to oversight and the encouragement from governments). In the light of changing international circumstances, a special chapter is also included. In the final part of the draft, there is a response to climate change to facilitate the achievement of the carbon peak and carbon neutrality targets (Pu 2022) by promoting the clean, low-carbon, safe and efficient use of energy and further advancing the low-carbon transition in the industry, buildings, transport and other areas.

Atmospheric pollution has gained wide attention in the discussion about coordination. Art. 2, for example, stipulates transregional prevention, including the synergistic control of various air pollutants (particulate matter, sulfur dioxide, nitrogen dioxide, *etc*.) and greenhouse gases. Other policies include efforts to reduce reliance on fossil fuels (coal), increase clean energy electric cars and set restrictions on pollutants.

However, the introduction of any law is faced with the problem of implementation. Although the EPL (2014) has been reputed to be the toughest one, what matters is whether the strict law can be put into practice with equally strict measures. The elements of environmental governance have been covered in relevant laws, regulations and policies, such as the responsible government, the acquisition of environmental information, reasonable regulations, public participation, institution coordination and the accusation of environment-damage behaviour, *et*. In the next paragraphs, we will observe whether these elements are reflected in practice and to what extent they are displayed through the lawsuits lens.

Chapter 3 Case Study: Environmental Litigation

The normative introduction of Chapter 2 offers a static picture of environmental governance in China. From the literature on policies and regulations, this chapter moves to the dynamic process of implementing environmental laws, regulations and policies, aiming to convert the 2D normative content into stereoscopic 3D animated exhibitions via first-hand research on environmental litigation. Specifically, this chapter presents and discusses a series of cases adjudicated by Chinese courts between 2015 and 2020 on the theme of environmental governance issues. The cases are following the distribution order of the environmental governance indicators detailed in Chapter 1, so as to test whether the relevant concepts about environmental protection in the global discourse can also be helpful to shed light on the environmental problems at the national scale in China. Hopefully, a vivid picture of environmental governance could be displayed through the anatomy of these environmental cases.

The test was conducted in the field of litigation because courts in China constitute a relatively new and active player in shaping environmental practices that are worth investigating and have been less studied in terms of their contributions to the implementation of environmental policies. The methodological section of this chapter describes how cases were selected. The decision has been taken of focusing on the so-called guiding cases that classified as judicially authoritative cases by the Chinese judiciary for all courts. The analysis was performed from six dimensions that correspond to the six environmental governance indicators elicited in Chapter 1. They are considerations of the effectiveness of national legislation, vertical and horizontal subsidiarity (cooperation) between agencies, participation of stakeholders in litigation, access to technical expertise and the overall ‘quality’ of the judicial output.

3.1 Environmental Case Collection

There is a large number of case samples to review considering the vast land, the huge population, various environmental forms and the uneven development of different regions in China. Environmental litigation overlaps a lot regarding fundamental issues as they are usually displayed in innumerable real disputes. With a big database to choose cases from, there is no specific direction to go forward. Instead, the current judicial reform that has been focusing on the uniformity of laws applicable to promote fairness across the country, provides a direction of case collection for us. The study of the implementation of environmental laws and regulations in China is thus based on the officially published 'guiding cases' (a kind of cases issued by the highest-level court, with more reasons detailed in the next paragraph).

The SPC issued, on July 27th, 2020, the Guiding Opinions on Unifying the Application of Laws to Strengthen the Retrieval of Similar Cases (for Trial Implementation) (hereinafter 'the Opinions'). The Opinions position the retrieval of similar cases as a specific system with Chinese characteristics[48], emphasising judges' reference to guiding cases and other types of cases and intending to achieve the uniform application of laws (General Press & Media Agency of People's Court, 2020). According to the Opinions, judges must comply with the judgments in 'guiding cases' and refer to 'typical cases', 'reference cases' and other cases to ensure effective decision-making for consistency, predictability, stability and transparency in case judgments. Different verbs indicate different attitudes towards different types of cases. The standards and application of legal provisions in guiding cases provide due expectations to be followed in future litigation. While typical cases and reference cases are not as compulsory as guiding cases, the principles conveyed by them are the indicators for the determination of other cases. Ideally, future cases are expected to measure up to the standards of the issued guiding, typical and reference cases when similar situations happen. However, practical conditions are more difficult to follow and this determined the choice of our analysis data.

[48] China's existing legal system is mainly based on the model of civil law–a codification of statutory provisions, rules and regulations in a specific area. Meanwhile, jurisprudence is playing an increasing role in court decisions.

The emphasis on the retrieval of former cases in the process of resolving similar legal disputes means that more and more court decisions are setting/will set a precedent. Among different cases, 'guiding cases' have the highest de facto binding level (Chen & Gong, 2019) due to the strict selection procedure, which is detailed in the Provisions on Guiding Cases (the Provisions) and the Rules for the Implementation of the Provisions on Guiding Cases issued by the SPC in 2010 and 2015, respectively, together with the 2020 Opinions. Article 2 of the Provisions delineates four standards for a regular case to be nominated as guiding case—widespread concern from the society, the application of substantive and principled legal provisions, typical legal disputes and difficult and complex or some new types of cases. If a case meets one of the aforesaid criteria, it is eligible to serve as a guiding case and then can be suggested to the Guiding Case Office of the SPC. After a round of follow-up review, the Office will submit qualified cases to the Judicial Committee of the SPC for discussion and approval according to the standards outlined in Article 2. Once approved, the SPC will issue the case as a guiding case (Art. 2-7 of the Provisions, 2010).

Unlike guiding cases, typical cases can be issued by various bodies, such as the SPC, the SPP, local courts, procuratorates[49] and different governmental branches. For example, the Ministry of Ecology and Environment published 10 typical cases of the optimization of law enforcement[50], and the State Administration for Market Regulation released 15 typical cases of '100-day Campaign' enforcement in 2019[51].

However, it is worth noting that different institutions have different procedures to select and publish typical cases. The SPC publishes typical cases in three ways. The first one is to publish typical cases via the Gazette of the SPC. The term 'typical case' (pinyin: diǎn xíng àn lì, Chinese: 典型案例) was chosen as a keyword at first to obtain a total of 52 pieces of relevant information (please check: http://gongbao.court.gov.cn). To expand the sample pool, a broader keyword – 'case' (pinyin: àn lì, Chinese: 案例) was used to obtain 75 pieces of information in total. The earliest one

[49] People's Procuratorate of Guangdong Province issued 8 typical cases on the topic of 'public interest litigation guards good life' in October 2021. For reference, please visit: http://www.gd.jcy.gov.cn/dxal/.

[50] For reference, please visit: http://www.mee.gov.cn/ywdt/xwfb/202201/t20220112_966858.shtml.

[51] For reference, please visit: http://www.gov.cn/xinwen/2019-03/15/content_5373924.htm.

is about drunk driving, published in volume 11 of 2019. Among the 75 accessed results, environment-related typical cases, a set of 4 environmental pollution criminal cases, were first released on Volume 3 of 2014. Second, on the official website of the SPC[52], the keyword 'case' was used to access 803 pieces of relevant information released from April 20th, 2010 to June 25th, 2021. Then the more specific keywords 'typical cases' were used, and the result was 404. This method narrowed the number of the searching results by almost half compared with the former search method using 'case' as a keyword. The first typical case in the environmental area, issued on February 18th, 2014, was included in a batch of 7 cases on 'Protecting people's livelihood'. Third, on the 'china court' website (https://www.chinacourt.org/index.shtml) funded by the SPC, four options – homepage, civil cases, criminal cases and typical cases appeared after clicking the column 'Trials'. The sum of typical cases was 2500 (50 pages with 50 cases per page) calculated from November 4th, 2002 to June 25th, 2021. The first published environmental case is about water pollution in paddy fields in Heilongjiang Province, northeast China[53].

Through these attempts, different searching results were gained. Confusingly, the first typical environmental cases published on the three platforms are not the same one, which is probably because the publicising work arrangements of the SPC were not in place, and the staff failed to update the issued typical cases timely and synchronise them via the three dissemination channels. The inconsistency in the different publishing outlets of the SPC could be reflected in other institutions. Another reason for different searching results might be the linguistic features. The work on unifying the application of laws has been strengthened since 2019 in the aforementioned the Opinions and several other documents announced by the SPC. Before that, the issuance of typical cases lacked a uniform format, and the relevant branches would use different words to indicate typical cases. Some might use 'typical cases' directly, while some would adopt 'ten

[52] See: http://www.court.gov.cn/search.html?content=典型案例, last visited 25/06/2021. For reference, all the search activities mentioned in this paragraph happened on the same day.

[53] For further clarification, dates mentioned in this paragraph refer to the publication date of the case by the court, rather than the time when the case happened or when the judgment was made. For example, the abovesaid case-water pollution in paddy fields in Heilongjiang Province, was released as a typical case in 2002. But it happened in 1982 and was brought to court in 1987.

important cases in xxx' and the like. This is one of the reasons that different results were obtained by using separate keywords of 'typical cases' and 'cases'.

Additionally, the political agenda in different periods would influence the announcement of typical cases. As the current national environmental protection law was passed on April 24, 2014, the SPC established the Environmental Resources Tribunal within its structure in June 2014. With environmental protection becoming the national policy, an increasing number of environmental cases have been brought to the court, which contributes to more prudence placed by the courts across the country in the environmental area. Some periodic actions have been put into practice to pursue stage-by-stage environmental targets (Table 3.1 lists typical cases issued by the SPC under different environmental themes). To get reliable and sound information, the official website of the SPC was chosen as the data source of typical cases in this study. On May 8th, 2020, the SPC released *40* annual typical environmental resources cases of the year 2019, grouping them into criminal, civil, administrative, environmental public interest and ecological damage cases. On June 4th, 2021, the SPC published 10 annual typical cases of environmental resources of the year 2020. Moving beyond the organ border, five branches jointly issued *5* typical cases of environmental pollution criminal cases in February of 2019, including the SPC, the SPP, the Ministry of Public Security, the Ministry of Justice and the Ministry of Ecology and Environment of China. According to an essay, the SPC had selected and published 15 batches of 135 typical environmental resources cases from the cases that have been concluded by the courts across the country by the end of 2019 (Wu, 2020). However, the number was found to be 133 (45 in italics plus 88 in Table 3.1) in this study.

Even the SPC published different numbers of annual typical cases and would announce various sets under varied agendas. The scattered publication, inconsistent format and unforeseen issuance of typical cases cause many difficulties in collecting them (another scholar and the author got different results for the total number of the typical cases published before 2019). Under these conditions, guiding cases were chosen as the research data for this study not only due to the greater influence of guiding cases on reality but also because of their greater accessibility and clarity, even though typical cases play their own role in practice, showing the multi-trajectory of the rule of law efforts in environmental governance.

Table 3.1 Typical cases issued by the SPC (2015-2020)

Title	Amount	Date (yyyy/mm/dd)
administrative cases on environment protection①	10	2015/02/06
typical cases of environmental infringement	10	2015/12/29
typical criminal cases of environmental pollution	8	2016/12/26
	5	2019/02/21
typical cases involving civil, criminal and administrative litigation	10	2017/06/22
Typical cases of judicial protection of the ecological environment in the Yangtze River Basin	10	2017/12/04
		2020/09/25
		2021/02/25
typical cases of ecological civilization construction in a new era	10	2018/06/04
typical cases of ecological environmental protection	10	2019/03/02
typical cases of the People's Court to safeguard the reform of the compensation system for ecological and environmental damage (ecological environment damage compensation)	5	2019/06/05
	10	2018/11/28
Typical Cases of Judicial Protection of Ecological Environment in Yangtze River Economic Zone	10	2020/01/09
Typical cases of judicial protection of the ecological environment in the Yellow River Basin	10	2020/06/05

Source: The official website of the SPC (http://www.court.gov.cn/zixun-gengduo-104.html), updated by the author, last accessed on June 18, 2021.

Note: ① Although this batch of cases issued in Chinese, without the word 'typical' in the title, they are here identified as typical cases considering the form and wording of their publication.

From 2011 to late July of 2021, the SPC had released 162 guiding cases altogether[54]. Every guiding case is composed of the case title, keywords, judging points, relevant provisions, basic facts, court decisions and reasons for the decisions. Based on the given keywords and basic facts, these 162 guiding cases were checked, and 15 guiding cases in the environment field were found. Between 2016 and 2019, the SPC released the 15 cases: one in 2016, another in 2018, and the other 132 published in 2019 as a set. Table 3.2 below shows the total 162 guiding cases, with 28 batches issued from 2011 to 2021 and covering civil, criminal, administrative and other specific law areas.

Table 3.2 Guiding Cases Summary (2011-2021/07)

Guiding Cases Summary (2011-2021)

batch number	publishing time	total	contractual	torts	intellectual property	marriage & family	other civil cases	commercial	criminal	administrative	maritime	state compensation	procedural
1	12-2011	4	No.1						No.3, No.4				No.2
2	04-2012	4	No.7					No.8		No.5, No.6			
3	09-2012	4					No.10	No.9, No.10	No.11, No.12				
4	01-2013	4						No.15	No.13, No.14		No.16		
5	11-2013	6	No.17, No.18	No.19	No.20					No.21, No.22			
6	01-2014	4	No.23, No.25	No.24						No.26			
7	06-2014	5			No.29, No.30				No.27, No.28		No.31		
8	18-12-2014	6	No.33						No.32				No.34-37
9	25-12-2014	7								No.38-41		No.42-44	
10	04-2015	8	No.51, No.52		No.45-49	No.50							
11	11-2015	4	No.53		No.55		No.54						No.56
12	05-2016	4	No.57		No.58					No.59, No.60			
13	06-2016	4	No.64						No.61, No.62				No.63
14	09-2016	5				No.66	No.65	No.67		No.69			No.68
15	12-2016	8	No.72-74						No.70, No.71	No.76			No.75, No.77
16	03-2017	10			No.80-87		No.78, No.79						
17	11-2017	5			No.92					No.88-91			
18	06-2018	4	No.95					No.96	No.93	No.94			
19	19-12-2018	5		No.98, No.99	No.100				No.97	No.101			
20	25-12-2018	5							No.102, No.103, No.104, No.105, No.106				
21	02-2019	6					No.107, No.109 No.111				No.108, No.110 No.112		
22	24-12-2019	4			No.113-115							No.116	
23	24-12-2019	10											No.117-126
24	26-12-2019	13		No.127, No.128 No.129, No.130						No.136, No.137 No.138, No.139			No.131, No.132, No.133 No.134, No.135
25	10-2020	4		No.140-143									
26	12-2020	4							No.144-147				
27	02-2021	9											No.148-156
28	07-2021	6			No.157-160, No.162		No.161						
note	11 years	162					numbers in red are environmental cases, 15 in total						

[54] Art.6 of the Provisions 'The guiding cases discussed and decided by the Judicial Committee of the SPC, shall be uniformly published in the Gazette of the SPC, the website of the SPC, and the People's Court Daily'. Accordingly, the information about guiding cases was obtained from the official website of the SPC, via: http://www.court.gov.cn/shenpan-gengduo-77.html, last visited at 9:34 pm, 25/08/2021.

Source: The official website of the SPC, updated by the author.

Notes: 1, The categories listed in the above table may vary with different points of view, and some cases involve more than one legal area. Table 3.2 provides a general idea of the distribution of environmental cases in the overall guiding cases.

2, The SPC had issued a total of 178 guiding cases by the end of 2021. There are seven environment-related cases among the newly added 16 cases, which were issued in December 2021. These seven newcomers are not included in the following case analysis part because the section was finished at that time. The author also believes that environmental governance issues could be well displayed through the comprehensive exploration of the former 15 environmental cases, even though they have their own particularities in involved topics and reflect some emerging social problems. For reference, these new added guiding cases are as follows: Guiding Case No. 172 (2018), a criminal case about deforestation; No. 173 (2020), environmental civil public interest litigation on a hydropower station construction project, which is believed to affect endangered wild animals and plants; No. 174 (2015), the judgment of which was made in December 2020, on a hydropower station and its influence on a kind of endangered wild plants. In this case, the assigned judges quoted the International Convention on Biological Diversity, which has also been covered in Guiding Case No. 75 (2016); No. 175 (2019) on local people's procuratorate against 59 citizens' illegally fishing; No. 176 (2020) on sand mining; No. 177 (2019) on the illegal transport of endangered aquatic wildlife; and No. 178 (2018) on the marine management problems of sea encirclement and reclamation.

In the following section, all the 15 environment-related guiding cases were analysed from the perspective of environmental governance. The aforementioned strict selecting procedures make the selected guiding cases more valuable and worthwhile to investigate. These cases can provide guidance on environmental justice as well due to the requirement for judges to check and use guiding cases while adjudicating cases. A panorama of how environmental laws have been implemented in practice will be displayed.

3.2 Environmental Case Analysis

As discussed in the first chapter, some indicators of environmental governance were identified

from relevant international environmental laws and treaties. Considering the public nature of environmental resources, everyone can be a free rider[55] and enjoy the benefits without contributing to the shared environmental resources. In this case, it is paramount to have an open and responsible government to protect and maintain a good environment for all residents, while a sound legal framework is essential for the more effective performance of the government's functions and the establishment of communication between citizens, organisations and the government. More importantly, environmental expertise is needed to develop solutions and promote environmental governance in a promising way. In this section, all those selected environmental cases are analysed according to these indicators (*i.e.*, open & responsible government, feasible laws & regulations, public participation and institutional coordination & environmental expertise).

These indicators are without well-defined boundaries and share some cross-cutting areas. For example, an open and responsible government would issue administrative regulations to promote the implementation of laws. The regulations produced by governmental branches may be overlapped with the indicator of 'feasible laws & regulations'. Specifically, the indicator of 'open & responsible government' has a dedicated focus on how the public authority perform its functions prescribed by laws, while 'feasible laws & regulations' emphasise on the feasibility and accessibility of legal regulations. On the other hand, 'feasible laws & regulations' is a vital aspect of environmental governance assessment which bestows on this indicator a separate space for discussion.

There are two alterations in this chapter in displaying environmental governance indicators. The sequential logic of Chapter 1 is based on the integration of resources. The legal foundation, the various social actors and the coordinated work consist of a pool of resource that can be deployed by governmental branches or integrated under the direction of the government. In theory, governments can exist invisibly when individuals and organisations are functioning smoothly. Another situation is when there is an unresolvable conflict and the public authority acts as a coordinator to solve the dispute. However, as several international environmental instruments point out, each country needs to cater for its specific circumstances. Given the prominent influence

[55] The free-rider problem is a kind of market failure, which refers to the phenomenon in which people who have access to the public goods, while paying little or nothing for the resource.

of state policy on the law and the centralised government in the Chinese context, the indicator of open & responsible governments has been elevated to the top of the sequence. In addition, as the research sample is drawn from environmental litigation, an indicator relating to the judicial system has been added to this chapter. The particular focus on the predictability of judicial outputs may reflect the application of the law in the courts and also provide further reflections on the role of the legal practitioner.

3.2.1 Open & responsible governments

An open and responsible government is the premise of environmental governance. This section is to address the following questions: Whether governments perform their duties prescribed in law? How do they play a role in environmental protection? What is their choice when environmental protection may block economic growth?

A. To carry out functions

In Guiding Case No.127 (2014), 79 fishermen sued a shipbuilding company for the death of a large number of scallops and significant economic losses caused by a large amount of red sewage discharged by the company. The 79 fishermen were engaged in scallop farming in Qinhuangdao waters, an offshore area customarily used by fishermen as a fish farm. After investigation, the court recognised that only 21 of the plaintiffs were engaged in scallop farming and had their farming areas polluted (for the original Chinese version, see the Judgment of Guiding Case No.127, p.19). The Maritime Use Management Law (2001) and Fishery Law (2013) both stipulate that individuals shall follow the required administrative procedures to obtain the certificate to use the sea and the farming permit[56]. However, all the 21 plaintiffs had no valid sea area use certificate

[56] Art.3 of the Maritime Use Management Law (2001), 'Sea areas belong to the state. The State Council shall exercise the ownership of sea areas on behalf of the state. No organ or individual may encroach upon, buy, sell or otherwise illegally transfer sea areas. Units and individuals using the sea area must obtain the right to use the sea area in accordance with the law.'

Art.19 of the Maritime Use Management Law (2001) stipulates that after an application for the use of sea area is approved in

and farming permit. In this case, the relevant government sectors declared that the 21 fishermen's farming activities are illegal (the Judgment of Guiding Case No.127, p.21). Considering their illegal farming activities, the court limited the scope of the compensation for damages to the economic loss and refused the claimed income loss.

From this case, it can be learnt that the illegal use of the sea area was widespread in the location. Thus, why are these violations so common? With such a large number of fishermen occupying large areas of the sea for farming, it is impossible to hide, suggesting that local fishery regulators did not carry out law enforcement inspections regularly and effectively. This case happened in 2010 when the government focused on exploiting marine resources to achieve 'a sound and rapid development of maritime economy', as stated in the preface of the Communiqué on the Management of Sea Area Use in 2010 (2011).

Following the implementation of the Maritime Use Management Law (passed in October 2001) in 2002, the State Oceanic Administration has compiled a series of reports on managing sea area use. The reports collection, known as the Communiqué on the Management of Sea Area Use, is to provide the public with a comprehensive understanding of the basic situation of sea area use across the country. From the website of the Ministry of Natural Resources of China, 14 Communiqués on the Management of Sea Area Use between 2002 and 2015[57]can be found. At the end of 2002, fisheries covered 559,646 hectares of the sea in China, accounting for up to 89.6% of the total sea area that has been approved by the government (2002 Communiqué on the Management of Sea Area Use). During the 14 years, fisheries had always been accounting for a high share of the total

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accordance with law, the State Council shall approve the use of the sea. The marine administrative department of the State Council should register and issue a sea area use certificate to the applicant. The applicant would obtain the right to use the sea area from the date of receiving the certificate.

Art.11 of the Fishery Law (2013) 'The state shall make a unified plan for the utilization of water areas, and determine the water areas and tidal flats that can be used for aquaculture. If organs and individuals use state-owned waters and tidal flats designated for aquaculture, the users shall apply to the fishery administrative department of the local government at or above the county level, and the government at the corresponding level shall issue a farming permit and acknowledge their farming production activities. The specific method of issuing farming permits shall be prescribed by the State Council.'

[57] See: http://gc.mnr.gov.cn/. The research wrote on the official website wondering why the Communiqué ended abruptly in 2016 on 17th November 2021 but has not received any replies yet.

sea use area, with a minimum of 76.1% in 2004 and a maximum of 93.44% in 2014 (Communiqués on the Management of Sea Area Use between 2002 and 2015). With such a striking percentage, there shall be a high possibility of illegalness in fisheries. However, law enforcement inspections first appeared in 2012 Communiqué as an independent project carried out by the managerial staff (2012 Communiqué on the Management of Sea Area Use).

For at least ten years, fishery sea use has been under insufficient supervision since the Maritime Use Management Law took effect in 2002. Despite the State Council's emphasis on the control over the unlimited, disordered and unpaid use of the sea through law enforcement inspections (2002 Communiqué on the Management of Sea Area Use), the 2013 Communiqué showed that the illegal acts of sea use in the fishery sector accounted for 41% of the total number of violations detected in the main types of sea use nationwide (land reclamation 23%, industry 22% and other types 14%). In 2014, marine administrative and enforcement agencies inspected 26,504 sea-use projects of various types, with 76,334 inspections, and found 975 cases of illegal sea area use. In 2015, marine administrative and enforcement agencies at all levels inspected a total of 13,760 fishery sea projects, with 33,601 inspections and an average of 2.44 inspections per project. Furthermore, 132 administrative penalty decisions were made in the fishery industry, among the total 359 administrative penalty decisions on the illegal acts of sea area use (fisheries constituting about 37%). From the above statistics on the annual Communiqué, it can be learnt that the marine administrative and enforcement agencies in China began to perform their regulatory functions more actively than they did when Guiding Case No.127 (2014) was brought to court in 2010.

In Guiding Case No.128 (2018)[58], the court found that apart from the plaintiff's prosecution, there were three other complaints about the light pollution caused by the shopping centre's outdoor electronic display. In May and September of 2014, two residents made their complaints by writing to the city hall. In February 2018, a third resident made the same complaint, stating that 'the electronic display is a nightmare' (the Judgment of Guiding Case No.128, p.3). Consequently, the Chongqing urban management committee handled citizens' complaints concerning the light

[58] A short summary of Guiding Case No.128 is provided in 3.2.2 (for reference, please check p.90). As many of the cases will be discussed more than once, the summary of each case is distributed along the arrangement of chapter 3, with a short reference made every time they are mentioned, when necessary.

pollution. After negotiation and meditation, the defendant was committed to taking corrective measures and following the limited playing time (summertime: 8:30-22:00, wintertime: 8:30-21:50). However, the outdoor electronic display is still producing a light nuisance without any changes. Since the instalment of the electronic display, the residents living in the surrounding area have complained about the light pollution repeatedly. Different complaint bodies, such as the municipal committee, the urban management committee, the business district office and other authorities, have communicated with the defendant. The defendant also promised to take some corrective measures but did not fulfil the promises (the Judgment of Guiding Case No.128, p.2).

It can be learnt that it is because of the ineffectiveness of the nearby residents' complaints that the plaintiff turns to the court for help. People usually prefer not to be engaged in court proceedings and are inclined to seek other alternative solutions. In this case, despite several complaints made by different residents to various branches of the government, the light pollution had been bothering them for around four years (from 2014 to 2018). So where were the regulatory authorities? What were their responses to people's complaints? How did they perform their monitoring duties when facing complaints? The answers are negative in Guiding Case No.128. As mentioned above, the light pollution problem can be administered by various authorities. Unsatisfyingly, they have a weak capacity to resolve complaints. Although some of the authorities finally found common grounds such as the limited playing time agreed by both parties, regulatory bodies shall monitor and ensure compliance with corrective performance. Otherwise, residents will be forced to resort to lawsuits as the shopping centre keeps disturbing the neighbourhood.

It is always a gradual process for government sectors to implement specific projects, from weak responses to people's complaints to active measures to deal with such issues. Local governments are playing an increasingly crucial role in regulating various environmental problems. In the 1980s, China's pollution discharge permit system began with the issuance of sewage discharge permits (Sun 2014, 17). However, the emission license system was laid aside and has not been applied much/well in practice. According to Sun (Ibid., 19), only about 30% of enterprises that have completed the pollutant registration obtained the emission permit in nearly 26 years, which is also because of the absence of specific regulations on emission licence issuance such as its conditions and procedures. It was not until January of 2021 that the State Council has not released specific

regulations on pollution discharge permits[59]. The EPL (2014) set the emission permit management system in general[60], thus starting the full implementation of emission permits in China (Wu 2016, 26). As a result, regulatory agencies in China have become more aggressive and started to inspect ongoing pollutant discharge within their mandate.

In Guiding Case No.137 (2017), a forestry guard from the county forestry bureau (state-owned), discovered that a villager, hired by a company, was building a road in the forest area (state-owned) in January 2013. Later, the county forestry bureau made an administrative penalty decision, confirming that the company employed an individual to excavate the land without obtaining a forest land acquisition and occupation permit. According to the decision, both the company and the villager must restore the forest to its original state within a limited period, with a fine of over RMB20,000 for the illegal change in the use of forest land (RMB10 per square meter). The company paid the fine in a short time, and subsequently, the defendant, the forestry bureau, closed the case. For more than three years (till the November of 2016), however, the forest bureau did not request the woodland destroyer to fulfil his administrative obligation to regenerate forest vegetation, leaving the national ecological forest in a damaged state.

After receiving the people's procuratorate's recommendations concerning the restoration of the forest, the bureau delivered an urge declaration to the villager, reminding him to recover the destructed flora as stated in the 2013 administrative decision. What turns out to be an irony is that the county forestry bureau held that 'the execution (of the 2013 administrative decision) has to be terminated in view of the death of the villager' (the Judgment of Guiding Case No.128, p.2), while the company who should bear the main responsibility for the deforestation was still in operation but received no reminders (the Judgment of Guiding Case No.128, p.6).

The county-level forest bureau was authorised by the provincial government to handle all forestry

[59] The regulation on pollution permits contains six chapters, including the general rules, application and authorization, pollutants discharge management, supervision and inspection, legal liability and appendix.

[60] Art.45 of the EPL 'The State shall implement a pollution discharge management system in accordance with the provisions of law. Enterprises, institutions and other producers shall discharge pollutants under the requirements of the emission permits; those who have not obtained emission permits shall not discharge pollutants.'

administration punishment cases within the county. As a public branch possessing the qualifications and powers of administrative law enforcement, the bureau exhibited great negligence in the performance of its statutory duties.

B. To maintain a balance between environmental protection and economic development

In Guiding Case No.129 (2018)[61], the appellant, one chemical company, applied to pay the compensation by instalments in that the full payment of the compensation within a short period could result in its bankruptcy. The People's Government of Jiangsu Province agreed to receive the compensation in five instalments, under the condition that the appellant can prove its conformity with the direction of the national economic restructuring strategy and achievement of the green production transformation, according to Article 231 of the Civil Procedure Law of China. In this case, the local government plays a positive role in promoting a green economy.

Some local governments have prioritised the quality of economic development over the quantity of economic development. In this case, Jiangsu Province, located in the developed area of eastern China, set a good example in the maintenance of a balance between environmental protection and economic growth. Environmental protection has long been conflicting with economic growth to obtain more attention. For local governments, it is a great challenge to take into account the benefits of companies while implementing the function of environmental protection.

Guiding Case No.132 (2018) is a last-instance environmental civil public interest lawsuit filed by the GDF on the pollutant emission of the defendant, a glass manufacturer. Unsatisfied with the compensation confirmed in the first instance, the GDF appealed to the local court against the local protection of the enterprise (the Judgment of Guiding Case No.132, p.2), which was fined by the local environmental authorities several times for its pollution. After the GDF filed the lawsuit, the glass manufacturer not only paid administrative fines totalling RMB12.81 million in 24 instalments from 13th April 2016 to 23rd November 2016 but also accelerated the process of denitrification, desulphurisation and dust removal transformation and upgraded its facilities. Then

[61] A short summary of Guiding Case No.129 is provided in 3.2.5 (for reference, please check p.121).

the local environment department granted the company the glass industrialist pollutant discharge license after inspection. In addition, the company invested another sum of RMB19.65 million in the establishment of a set of backup sewage equipment, becoming the first local enterprise possessing two sets of environmental protection equipment in operation and a spare set to ensure the stable operation of environmental protection facilities during production.

The assigned judges expressed appreciation for the clean-up efforts made by the defendant. Some key points of the adjudication are as follows. Firstly, the polluter took the initiative to improve the environmental protection facilities and effectively reduced the environmental risks during the legal process as the principle of risk prevention should be considered in environmental public interest litigation while emphasising environmental damage relief (the Judgment of Guiding Case No.132, p.12-13). Secondly, the court examined the merits and drawbacks of the glass manufacturer's activities, such as the number of excessive emissions, the degree of fault, the operating costs of pollution control facilities, and the effective measures taken to prevent pollution. Finally, the judges decided to lessen the polluter's compensation liability.

Which one should be the priority, environmental protection or economic development? Since the purposes of businessmen are different from those of the public, legislators pursue a perfect status of emphasising both. The principles of protecting the environment, preventing pollution, promoting 'the balance between economic and social developments and environmental protection' and pursuing the sustainable development of the economy and society are enshrined in the general provisions of the EPL[62]. Legislative purposes can be beautifully written on paper, but a lot of

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[62] Article 1 This Law is enacted to protect and improve the environment, prevent and control pollution and other public hazards, assure the public's health, promote the construction of an ecological civilization, and facilitate the sustainable development of the economy and society.

Article 4 The protection of the environment shall be a basic policy of the State. The State shall adopt economic and technological policies and measures that are propitious to the saving and recycling of resources, protection and improvement of the environment, and promotion of harmony between humankind and nature to facilitate the balance between economic and social developments and environmental protection.

Article 5 Environmental protection shall uphold the principles of protection first, prevention as the focus, comprehensive treatment, participation of the public, and accountability for damages.

brainwork is needed to realise the goals in practice. The glass manufacturer has made great efforts to protect the environment, which would provide a positive reference for other companies. As a result, the court decided to impose a lenient fine on the company.

In Guiding Case No. 134 (2016), a mining company situated in Hubei Province contaminated a reservoir in Chongqing. Established in 2008, this reservoir provides drinking water for more than 50,000 people in the surrounding area and was recognised as a protection zone for centralised drinking water by the Chongqing government in 2013. Located approximately 2.6 kilometres from the reservoir in a mountainous karst landscape with underground fissures and numerous culverts, the mining company obtained an environmental impact assessment (EIA) certification from the environmental protection bureau of the local autonomous prefecture in 2011. Before the water pollution prevention and control facilities were completed, it started production in 2014 after two years of plant construction, discharging wastewater from production into nearby natural depressions without treatment and thus polluting drinking water in the reservoir. The Green Volunteer League of Chongqing, a non-profit organisation, sued the mining company for this reason and asked the defendant to make EIA anew for possible contamination in the future to decide whether it should be re-located or not. The final decisions uphold the plaintiff's most claims, including the requirement that the mining plant should undergo a second round of EIA procedure and the ban on production without the approval of the environmental authorities (the Judgment of Guiding Case No.134, p.10). However, the mining factory disagreed with the court's decisions and submitted the appeal.

According to the Water Pollution Control Law (2008, Art. 17)[63], the design, construction and application of water pollution prevention and control facilities shall be synchronised with the main project. In this case, the mining factory failed to abide by the regulation and moved forward to production directly, neglecting the wastewater discharge. After the pollution of the reservoir, although the mining factory paid an administrative fine of RMB1,000,000, it still failed to take effective measures to remedy and eliminate the pollution in compliance with the prohibition on production activities and the order. The court holds that 'environmental pollution and ecological

[63] This provision is in Art. 19 of the current Water Pollution Control Law of China, amended in 2017.

resources destruction are often irreversible, and it is usually difficult to realise ecological restoration. The economic compensation alone is not enough to make up for the damage to the ecological environment. Therefore, preventive measures against environmental infringements should be highlighted' (the Judgment of Guiding Case No.134, p.11). The court's injunction against the company is only a temporary suspension. If the resumption of production cannot ensure the termination of environmental pollution, it should be prohibited to protect the fragile local ecological environment. Economically thinking, the short-term prohibition against the company's production can avoid the risk of other possible lawsuits if the mining factory is found to have resumed illegal production in the future, thereby reducing the burden of litigation on the parties and saving judicial resources.

The court imposed a constraint on the mining factory's production for the reason of proportionality, considering its inadequate wastewater treatment facilities and the complex geographical conditions of its factory. That is to say, a necessary priority was given to the prevention of pollution rather than the economic interests of one particular factory. Also, it is a punishment for the factory's negligence of its corporate environmental responsibilities. Following the reservoir pollution incident, the mining factory fulfilled its obligation to pay the administrative fine but took no effective measures to eliminate the pollution in defiance of the order from the local environmental department. Enterprises, driven by profits, usually attach importance to productivity ahead of environmental protection and commence operation without official approval. This apparent imbalance between the individual's economic benefits and the public's environmental interests has to be cured.

C. To implement an appraisal mechanism for local officials

Although the top design of national policies from the central authorities is, to a certain extent, quite promising, lots of problems will emerge in practice. Some regulations such as the appraisal mechanism for local officials are designed to confine the power of local governments within an institutional cage.

Local officials have long been holding a liberal view on polluters due to their need to win promotion through economic growth. Thus, they are trapped by the desire for political and economic interests but ignore the human obligation to protect the environment. As stated previously, 'the largest polluter is not the factory but the problematic official assessment system' (China Daily, 2013). After 14 years of preliminary work undertaken by the State Environmental Protection Administration and other relevant departments of China (Pan, 2004), the environmental protection indicator was finally incorporated into the official assessment system in 2013 (Li, 2017). In Art. 26 of the EPL, an evaluation system for the accountability and performance of environmental protection is established. The achievement of environmental protection targets, as an appraisal criterion, shall be included in the performance evaluation system for the departments responsible for environmental protection supervision and the person in charge[64]. In response to the performance evaluation system, Art. 28 of the EPL stipulates that local governments should take effective measures to improve environmental quality according to environmental protection objectives and government tasks[65].

As mentioned above, environmental protection has been included in the performance appraisal of officials as a measurable value. The measurement is a driving force for the reform from the mere pursuit of GDP growth to sustainable economic development, as well as a follow-up on the international call to reinforce institutional accountability. In Article 29 of the Johannesburg Declaration on Sustainable Development adopted in the 2002 World Summit on Sustainable Development, a commitment is made to 'enforce corporate accountability' within 'a transparent and stable regulatory environment' (Report of the World Summit on Sustainable Development

[64] Article 26 The State shall implement a system of environmental protection target accountability and performance evaluation. The people's governments at or above the county level shall include the completion of environmental protection targets as part of the evaluation of departments with the responsibility of supervision and administration of environmental protection of the people's governments of the same level and their heads, as well as the people's governments of lower levels and their heads, and use it as an important basis for their performance evaluation. The evaluation results shall be made public.

[65] Article 28 The local people's governments at each level shall take effective measures to improve the environmental quality according to the environmental protection targets and control tasks. The local people's governments of the key areas and watersheds that have not met the national environmental quality standards shall develop plans to meet the standards within a certain period of time and take measures to meet the standards within the period.

2002, 4). The second resolution adopted at the summit is the Plan of Implementation of the World Summit on Sustainable Development, which is to urge states to promote 'accountability and fair administrative and judicial institutions' (Art. 163) and thus strengthen governmental institutional frameworks at the national level (Ibid., p.71). The latest corresponding adjustment to enhance officials' environmental protection accountability was proposed in 2019. As emphasised in Art.10 of the Regulations on the Assessment of Party and Government Leading Cadres (the General Office of the CPC Central Committee, 2019), 'high-quality development' is a key performance indicator to assess officials' track record during their term of office. A further announcement was issued to explain 'high-quality development' as an indicator for the performance assessment of leading cadres (the Organization Department of the Central Committee of the CPC[66], 2020), advocating that local officials at all levels should strive to promote a green economy and stick to environmental protection while pursuing economic growth.

Guiding Case No.104 (2016) is an environmental criminal case where five officials of the Environmental Monitoring Station of Chang'an (district) Branch under Xi'an (capital city of Shaanxi province) Environmental Protection Bureau, were accused of 'damaging the computer information system' (according to the Criminal Law of China[67]) due to their interference with the environmental quality monitoring system. The Chang'an District Automatic Ambient Air Monitoring Station (Chang'an Sub-station) is one of the 13 state-controlled air stations in Xi'an, regulated by the Ministry of Environmental Protection of China and possessing an automatic ambient air quality monitoring system that collects, processes and transmits the data to the China General Environmental Monitoring Station every hour. At the same time, the collected real-time data is released to the public through a website and used to compile monthly, quarterly and annual reports on the national ambient air quality status to be released to the whole country. As confessed

[66] The Organization Department of the Central Committee is an important organ of the CPC. It oversees the appointments of party members throughout China.

[67] Article 286 of the Criminal Law of China (2015) [Crimes of damaging computer information system; crimes of network service malfeasance] Anyone who, in violation of state regulations, deletes, modifies, adds to or interferes with the functions of a computer information system, causing the computer information system to fail to operate normally, with serious consequences, shall be sentenced to fixed-term imprisonment of not more than five years or to detention; if the consequences are particularly serious, he shall be sentenced to fixed-term imprisonment of not less than five years

by one defendant, 'the director of Chang'an Sub-station often pushes him to lower the level of the monitoring data' (the Judgment of Guiding Case No.104, p.9). Under the director's instruction, the other four officials repeatedly entered the sub-station and blocked the sampler with cotton yarn to interfere with the data collection process. Such behaviours disturbed the regular operation of the national automatic ambient air quality monitoring system, distorting the collection of the monitoring data during several periods. The underlying reason for fake monitoring data is that the head of Chang'an Sub-station was eager to decrease pollution data but reluctant to make improvements through time-consuming practice.

Some key expressions are associated with the act of monitoring data manipulation with the aim of exaggerating the number of 'good days', including 'accomplish the task of good days', 'affect the evaluation and ranking of cities in Shaanxi Province', 'the distortion of the assessment and evaluation of districts and counties in Xi'an' and 'impair the objectivity and fairness of the assessment'. It can be surmised from these expressions that there is a subtle association between the assessment of environmental quality and the performance appraisal of officials. For some local officials who want to obtain a high score in performance appraisal, it is possible to take deceptive measures rather than long-term practice to achieve immediate results.

3.2.2 Feasible laws & regulations

For this indicator, four sub-indicators are further analysed in this section to better understand how legal instruments work in the environmental area and answer the following questions. Could people find matching legal prescriptions when their environmental interests and rights are influenced? Will law offer valuable guidance on the resolution of environmental disputes? To what extent can law provide protection? How does the Chinese court respond to international environmental instruments?

A. The absence of specific regulations

In Guiding Case No.127 (2014)[68], the shipbuilding company claimed that 'iron is not a criterion for evaluating the quality of seawater' because no regulations and restrictions on the iron content in seawater are stipulated in the evaluation criteria adopted in the Assessment Report. If the iron content was one of the criteria, there would be no relevant indicator of the iron content that constitutes pollution damage (the Judgment of Guiding Case No.127, p.20). However, the court did not support this opinion for three reasons. First, the Marine Environment Protection Law stipulates that as long as the perpetrator introduces materials or energy into the sea and causes damage, it is considered pollution[69]. As stated in Article 65 of the Tort Law (valid period 01/07/2010-31/12/2020), 'for the damage caused by environmental pollution, the polluter shall bear tort liability'. In addition, the range of the responsibility for environmental pollution is not limited to discharge exceeding national or local standards. Second, the current two national standards applied to the evaluation of the quality of seawater in China[70] have not been revised for a long time since their implementation – and this is an important point (the Judgment of Guiding Case No. 127, p.20). The Water Quality Standards for Fisheries (GB 11607-89), which was approved in 1989 and came into force in 1990, and the Sea Water Quality Standards (GB 3097-1997), which was approved in 1997 and came into effect in 1998, were formulated before the environmental problems came to the fore in China. Accordingly, the items listed therein are no longer sufficient to cover the full range of substances that can cause pollution today. The court

[68] A short summary of Guiding Case No.127 is provided in 3.2.1-A (for reference, please check p.77).

[69] The supplementary provision of the Marine Environment Protection Law of China gives its formal definition of the term pollution damage to the marine environment, 'it means any direct or indirect introduction of substances or energy into the marine environment which results in deleterious effects, such as harm to marine living resources, hazards to human health, hindrance to fishing and other legitimate activities at sea, impairment of the useful quality of seawater and degradation of environmental quality'. A note: since Guiding Case 127 was brought to court in 2014, the judgment cited the 2013 version of the Marine Environment Protection Law, and the current 2017 version retains the same definition.

[70] The two national Standards were both approved by the former National Environmental Protection Bureau of China, which was established in 1984, formerly known as the Environmental Protection Bureau under the Ministry of Urban and Rural Construction and Environmental Protection of China. In 1998, the Bureau was upgraded to the State Environmental Protection Administration (Ministry level); in 2008, it was elevated as the Ministry of Environmental Protection and became a constituent department of the State Council; in 2018, the title changed to the Ministry of Ecology and Environment of China to integrate the scattered duties in various departments.

opined that the above two standards were not the only basis for judging whether a specific type of substance causes pollution damage. Third, the local environmental protection bureau stated in an official review that there were no clear national standards for the content of the iron discharged into seawater at that time (even for now). Thus, environmental expertise is needed to further determine whether effluent affects mariculture. The assessment report provided by appraisers with relevant background knowledge (the claimant hired) reveals that a high iron level in seawater is harmful to fisheries.

Following the above justification, the court decided against the shipbuilding company due to the pollution of the sea area caused by the company's wastewater that contains an excessive content of iron in this case, finally determining that the shipbuilding company should bear 40% of the pollution damage liability for the fishermen's loss (the Judgment of Guiding Case No.127, p.22).

For the author, the most convincing reason of the first one. That is to say, the polluter should bear strict liability for environmental pollution. Simply speaking, if there is the act – pollution and the result – damage, the polluter is most likely to assume responsibility. Whether national/local standards specify the emission control requirements for a particular type of chemical element, or whether the discharge content complies with national/local standards, the polluter shall be liable for the pollution that causes environmental damage. In the context of environmental protection, it is reasonable to call on the enterprise or individual who benefits from environmental resources to take their respective duties to compensate the victim for the inconvenience or loss caused by the former's conduct towards the environment, which is originated from the beneficiary pay principle. The author believes that it will be of a squarer deal if there are feasible laws/regulations for the parties to obey. Unluckily, there are no specific standards or regulations for the defendant to observe in Guiding Case 127 (2014).

In Guiding Case 128 (2018), a resident Li appealed to China Resources Land (Chongqing) Co., Ltd. against the light pollution caused by an outdoor electronic display in a shopping centre operated by the defendant, a real estate development firm. The plaintiff was living across the street from the shopping centre operated by the defendant, and there were no other obstructions between the shopping centre and the plaintiff's residence. In May 2014, a large outdoor display was installed on the shopping centre's external wall facing the plaintiff's apartment. The plaintiff

claimed, ‘the frequent flashing of strong bright light from the outdoor display goes straight into his apartment, seriously affecting the normal life of his family’ (the Judgment of Guiding Case No.128, p.2). The critical point of this case is how to identify light pollution. Although the EPL (2014) stipulates that enterprises emitting pollutants should take measures to prevent and control environmental pollution and hazards such as the production of light radiation[71], there are neither national norms and technical indicators nor local regulations for the environmental monitoring of light pollution. Thus, the court has difficulties in labelling light pollution and regulating this issue.

The court considered whether the light produced by the outdoor display interferes with the plaintiff's daily life, work and study, collected various opinions from the surrounding residents, paid field visits to feel the actual scene, and asked for expert opinions. The results showed that the intense light caused light pollution in the neighbourhood. Considering the rest habits of the majority of the general public, the court imposed some specific restrictions on the shopping centre’s operation of the outdoor electronic display such as turning down the brightness and prohibiting night display.

With regard to the time frame of night display, there are no relevant norms to follow in noise pollution laws, regulations and national or local standards. In the light of the similarities between light pollution and noise pollution, the judge forbade the defendant from lightening the outdoor display from 10 pm to 6 am by referring to the Law on Prevention and Control of Environmental

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[71] Article 42 of the EPL (2014): Enterprises, institutions and other producers and operators that emit pollutants shall take measures to prevent and control environmental pollution and hazards caused by waste gas, wastewater, waste slag, medical waste, dust, malodorous gases, radioactive substances and noise, vibration, light radiation and electromagnetic radiation generated in the course of production, construction or other activities.

Enterprises and institutions that emit pollutants should establish an environmental protection responsibility system to clarify the responsibilities of those in charge of the unit and relevant personnel.

Key emission units should install and use monitoring equipment in accordance with the relevant national regulations and monitoring norms, ensure the normal operation of monitoring equipment, and keep the original monitoring records.

It is strictly forbidden to illegally discharge pollutants, such as through concealed pipes, seeping wells, seepage pits, perfusion, and tampering with or falsifying monitoring data, and improperly operating pollution prevention and control facilities to evade supervision, etc.

Noise Pollution[72]. Based on the changes in people's schedule in different seasons, as well as the plaintiff's request and the defendant's acceptance, the court set the specific display time (from 1 May to 30 September: 8:30-22:00, from 1 October to 30 April: 8:30-21:50).

Most physical/mental damage caused by environmental problems is characterised by potentiality, permanence and individual differentiation. Due to individuals' physiological and other differences, some people could be particularly vulnerable to exposure to light/noise. When facing light pollution cases and the like, judges should not only refer to national, local or industry standards but also take into account some personal factors and the degree of public tolerance.

B. Conflicts among different regulations

In Guiding Case 128 (2018)[73], the plaintiff proposed to turn down the brightness of the shopping centre's outdoor electronic display after 19:00, with a luminance limitation of no greater than 400cd/m². After 19:00, with the darkening of the eternal natural environment, many people enter the night rest period. People are more accustomed to resting in a dark background at night. Thus, the brightness of the LED display shall be lowered, which is conducive to reducing the impact of LED display light on the plaintiff and other residents living across the street, to make it more easily accepted by the general public. Regarding the specific limits on the brightness of the LED display, the Code for Lighting Design of Urban Nightscape (JGJ/T 163-2008)[74] has an explanation,

[72] Article 63 of the Law on the Prevention and Control of Environmental Noise Pollution stipulates that 'night time' refers to the period between 22:00 pm and 6:00 am.

[73] A short summary of Guiding Case No.128 is provided in 3.2.2-A (for reference, please check p.90).

[74] The Code for Lighting Design of Urban Nightscape is an industry standard, numbered JGJ/T 163-2008, issued in November 2008 and come into force on May 1, 2009. For further reference, the Code set four principles regarding light pollution in Chapter7: 7.1The following principles should be followed for the limitation of light pollution: 1, While ensuring the lighting effect, light pollution from night lighting should be prevented. 2, Restrictions on light pollution from night lighting should be precautionary and avoid the phenomenon of pollution followed by treatment. 3, For cities where light pollution has already occurred, the prevention and treatment of light pollution should be done at the same time. 4, The operation and management of night lighting facilities should be done well to prevent light pollution from being generated during the operation of the facilities.

stipulating that in highly illuminated ambient areas such as city centres and commercial areas, where the illuminated area of advertising and signage is greater than 10m², the maximum allowable average luminance is 400cd/m². In the Evaluation Requirements for Obtrusive Light of LED Panels (GB/T36101-2018)[75], there are also different stipulations on the classification and requirements for interference light on LED displays at night. In urban centres and commercial areas, the limit to the brightness of full colour or multi-colour LED displays is 600cd/m², even when facing the living room. Due to different provisions on the brightness limit in the industry and national standards, the court took many factors into account and consulted two professors from Chongqing University about relevant professional knowledge. Based on some academic studies, they indicated that people could endure less influence when the luminance is under 400 cd/m², which is difficult for dynamic advertising screens to comply with, saying, 'There are differences between LED displays and direct lighting, and it is more appropriate to use the relevant national standards for LED displays' (the Judgment of Guiding Case No.128, p. 5). Finally, the judges determined to limit the brightness of the LED display after 19:00 to 600 cd/ m².

C. Strict legal regulations

Guiding Case No.139 (2017) is an environmental administrative case, in which a building materials company appealed to the district environmental protection bureau against the imposed penalty for its odour emissions exceeding national standards. The company is engaged in the comprehensive reuse of resources, using the sludge generated in the production process of other enterprises as raw materials for harmless treatment. It claimed that since the odour in the plant came from the sludge that was not produced by itself, the company should not be liable for the emissions (the Judgment of Guiding Case No.139, p.7).

Article 18 of the Air Pollution Prevention and Control Law (2015)[76] stipulates that enterprises

[75] The Evaluation Requirements for Obtrusive Light of LED Panels is a national standard, numbered GB/T36101-2018, issued in March 2018 and come into force on October 1, 2018. In this standard, obtrusive light refers to the light of LED displays that bring people with uncomfortable feelings, distraction or reduced visual ability, due to the quantity, direction or spectral characteristics of the spray light. It describes the effect of the LED display on the recipient.

[76] The current version of China's Air Pollution Prevention and Control Law is the 2018 version. Article 18 remains the same, as

shall emit pollutants within the relevant standards. The court held that the building materials company, as an emission unit, should meet the requirements of national standards for all polluting gases emitted throughout its production activities, including leakage and substandard discharge. Since the disposal and management of manufacturing materials is part of the production process that the plant is in charge of, it should be held responsible for the exceeded odour concentration at the factory boundary due to negligent management (the Judgment of Guiding Case No.139, p.7).

company also questioned the sampling frequency for odours. They believed the fine of RMB250,000 was too much because the odour concentration slightly exceeded the national standards, with only one of the four monitoring points beyond the limit. According to the Emission Standards for odour pollutants (1993), the maximum value measured at a monitoring point cannot be higher than the standard value. The court looked through the relevant prescriptions in the Emission Standards [77] and concluded that emissions of air pollutants should be measured rigorously. The monitoring value should not exceed the limit specified in the Emission Standards, even under the highest production load and the most unfavourable conditions for the dispersion and dilution of pollutants (Judgment of Guiding Case No.139, p.8). According to the sampling frequency of intermittent emission sources, the environmental monitoring station collected three samples from each of the four monitoring points in the factory for testing, and took the maximum value. As a result, the district environmental protection bureau determined that the one-time maximum value of 25 for the odour concentration at one of the company's monitoring points exceeded the specified emission limit of 25. The court 'respects and recognises' (the Judgment of Guiding Case No.139, p.8) the environmental bureau's decision.

D. The application of international treaties

stipulated: 'Enterprises, institutions, producers and operators should conduct environmental impact assessments and disclose environmental impact assessment documents in accordance with the law when constructing projects having an impact on the air environment; if the entities discharge pollutants into the atmosphere, they shall comply with the air pollutant emission standards and abide by total emission control requirements for key air pollutants.

[77] Emission standards for odor pollutants (1993) provides different sampling frequencies in 6.2.2: for continuous emission sources, shall be sampled once every 2 hours, 4 times, and the maximum measured value will be taken; for intermittent emission sources, shall be sampled at the maximum odor time, the samples shall be taken at least 3 times, also the maximum measured value will be taken.

Guiding Case No.75 (2016)[78] demonstrates that domestic legislation and international treaties are in harmony under certain conditions. In the Reasons for the Adjudication section of the judgment, the definition of biological diversity built in the Convention on Biological Diversity[79] , the first international agreement on the conservation and sustainable use of biological diversity (the Convention on Biological Diversity 2000, 8), is cited. Combining it with the provisions on biodiversity protection in the EPL of China[80], the court stated that 'biodiversity protection is a key part of environmental protection and of great importance to the public environmental interest' (the Judgment of Guiding Case No.75, p.4). The purpose of the GDF, as stated in its charter, is 'to mobilise the whole society to care about and support the cause of biodiversity conservation and green development, protect national strategic resources, promote the construction of ecological civilisation and harmony between human beings and nature, and build a beautiful home for human beings' (the Judgment of Guiding Case No.75, p.5). This is consistent with the biological diversity principle underlined in the Convention on Biological Diversity and the EPL of China.

On the other hand, international treaties do not necessarily become applicable within the domestic sphere, even if a country signed them. The adoption of international treaties in courts is not common in environmental disputes, especially when they are not related to international disputes. This implementation of the provisions in the Convention on Biological Diversity implies that some international treaties can be rectified in China and applies to Chinese courts. It can be inferred that, at least, different countries share the same definition of some environmental terms under certain conditions. The consensus is of particular significance to the establishment of specific academic theories and environmental laws with modest common standards. Recognising the effectiveness

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[78] A short summary of Guiding Case No.75 is provided in 3.2.3-A (for reference, please check p.96).

[79] Article 2 of the Convention on Biological Diversity: 'Biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems'. The Convention is a multilateral environmental agreement, signed by China in 1992, entered into force in December 1993.

[80] Article 30 of the Environmental Protection Law of China, 'The development and utilization of natural resources should be developed in a rational manner to protect biodiversity and ensure ecological security; and the ecological protection and restoration programs shall be formulated and implemented in accordance with law. For the introduction of alien species as well as the research, development and use of biotechnology, measures should be taken to prevent damage to biological diversity'.

of international legal instruments in environmental practice is conducive to the development of global environmental governance. Primarily, there is a need to highlight here — it is the SPC, the highest trial organ in China, that applied international treaties in this specific case. Given the constraints and power of different courts, the SPC should act as a catalyst and help steer local courts' consideration of other laws and regulations when in a dilemma. In conclusion, it is fair to say that international treaties and internationally recognised principles can offer feasible guidelines in domestic situations.

3.2.3 Public Participation

Public participation plays a vital role in building good environmental governance. In this chapter, three sub-indicators are selected to examine the breadth and depth of public participation in environmental causes. As a group sharing the same goal in daily activities, social organisations are important participants in environmental public interest litigation. By contrast, the influence of individuals is naturally weaker. However, providing more opportunities for individuals to express their opinions is still indispensable for creating a fairer and healthier environment for all. To enhance participation, it is not enough to merely stress the formality, qualitative involvement deserves more attention. Thus. people's access to information and dispute resolution regarding the depth of public engagement is discussed as follows.

A. Social organisations

Compared with individuals, social organisations usually possess flexible personnel reserves and rich collective resources. These characteristics endow organisations with more favourable conditions of litigation. In the light of the non-exclusive identity of the environment, individuals tend to be less motivated to file environmental lawsuits in the early stage. Meanwhile, social organisations can devote more efforts to legal proceedings.

Guiding Case No.75 (2016), as the first guiding case in the environmental scope issued in 2016, lowered social organisations' barriers to its final court decision, thus enabling them to initiate

proceedings. The issue in the case is whether the China Biodiversity Conservation and Green Development Foundation (the GDF) is a social organisation specialising in environmental protection activities for the public interest. The GDF lodged a complaint, claiming that a local chemical company discharged effluent directly into the evaporation pond during the production process. The wastewater exceeding the emission standards caused severe pollution to the Tengger Desert[81], and the rectification had not been completed by the time of the prosecution.

Both the courts of the first and last instance held:

> The memorandum of the GDF does not indicate that the foundation was 'engaged in public welfare activities for environmental protection', even though the purpose and business scope of the organisation is to protect the public interest. This unclearness is in breach of Article 4 of the Interpretation of the Supreme People's Court on Several Issues Concerning the Application of Law in the Conduct of Environmental Civil Public Interest Litigation (the Interpretation of Public Interest Litigation). Also, the scope of the GDF's business defined in its registration certificate does not include environmental protection. Thus, the GDF cannot be recognised as a social organisation that 'specialises in public welfare activities for environmental protection' as stipulated in Article 58 of the EPL (the Judgment of Guiding Case No.75, p.1&2).

Following the above-mentioned provisions and taking into account the GDF's memorandum of association and business scope, the former two courts rejected the GDF's prosecution. The GDF refused to accept the last-instance ruling and applied to the SPC for a retrial.

The SPC focused on three aspects to examine whether the GDF is a social organisation specialising in environmental protection activities, under the guidance of the following provisions:

Article 55 of the Civil Procedure Law (2012) stipulates a public interest litigation system, classifying environmental protection as an applicable situation and stating [82], 'For environmental

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[81] The Tengger Desert *(*pinyin*: Ténggélǐ Shāmò;* Chinese*: 腾格里沙漠)*, located in northwestern China, is the fourth largest desert in the nation.

[82]Since Guiding Case No.75 happened in the year 2015, it was the 2012 version of the Civil Procedure Law that applied in the

pollution, an infringement of the legitimate rights and interests of many consumers and other acts that harm the interests of the public, social agencies and relevant organisations specified in the law may lead to a lawsuit to the people's court.'

Article 58 of the EPL (2014) then specifies 'who can file an environmental public interest lawsuit', thus further clarifying the application of Article 55 of the Civil Procedure Law (2012) in the field of environmental law. Social organisations are eligible to file a lawsuit for public environmental benefits provided that they have been formally registered and have been continuously and legally involved in environmental public interest activities for no less than five years. Once a social organisation meets these conditions, the court will guarantee its litigation rights. However, social organisations are not allowed to obtain economic benefits through environmental public interest lawsuits[83].

For the two prescriptions 'formally registered' and 'legally involved in environmental public interest activities', it is easy to check the registration information of a social organisation on the official website of the Chinese Social Organisation Government Service Platform[84]. Secondly, the Interpretation of Environmental Public Interest Litigation (2015) issued by the SPC[85] provides a practical and detailed explanation for the instruction of court trials. The social

court. The current Civil Procedure Law of China revised in 2017 retains this provision and adds a second paragraph, empowering the People's Procuratorate the right to bring a lawsuit. We will go into details of this prescription later when talk about the indicator of 'coordination'.

[83] Article 58 of the EPL (2014) 'A social organization may file a lawsuit in the people's court against an act that pollutes the environment or damages the ecology or harms the public interests of society if it meets the following conditions: (a) it is registered, in accordance with the law, with the civil affairs department of the people's government at or above the level of a municipality established with districts; (b) it has been engaged in public welfare activities for environmental protection for at least five consecutive years and has no illegal record. The people's courts shall accept the lawsuits filed by social organizations that meet the requirements of the preceding paragraph in accordance with the law. The social organization that initiates the lawsuit shall not seek economic benefits through the lawsuit.'

[84] On the official website, by clicking on Information Disclosure button, several options will appear, including Organization Inquiry, Credit Inquiry, Administrative License Notice, Administrative Penalty Notice, Charitable Organization Notice, *etc*. Then under the Organization Inquiry option, you can check the information of the social organization you want to know (here attach the website: https://datasearch.chinanpo.gov.cn/gsxt/newList).

[85] The Interpretation of Environmental Public Interest Litigation (2015): Article 4 If the purpose and main scope of business of a

organisation's purpose and main business scope should be relevant to environmental protection to maximise the possibility that the filed lawsuit falls into the organisation's specialisation domain. Besides, the opposite party may undertake a background investigation to examine whether the social organisation has administrative or criminal punishment records within the last five years. At this point, the social organisation is legally qualified to initiate environmental public interest litigation.

According to the above provisions, the first of the three aspects is whether the GDF's purpose and business scope include environmental protection. The court said,

> The common interest of the public to live and develop in a healthy, comfortable and beautiful environment is presented in various forms. Whether the purpose and business scope of social organisations involve protecting the public interest in the environmental area should be judged according to their connotations rather than the wording. Although the charter of a social organisation does not indicate that it is dedicated to defending the public environmental interest, it should be recognised that environmental protection is covered in the social organisation's purpose and business scope given that its work content falls within the scope of protecting multiple natural factors (including artificially modified ones) that influence the survival and development of human beings' (the Judgment of Guiding Case No.75, p.4).

The second aspect is whether the social organisation was engaged in actual environmental protection activities for the public interest. The GDF submitted a great deal of relevant evidence, including its evolution history, photos of public interest activities, several notices of acceptance of the environmental public interest lawsuit, *etc*. The evidence is sufficient to show that since its establishment in 1985, the GDF has long been engaged in environmental protection activities, such

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social organization is to safeguard the public interest of society and engage in public welfare activities of environmental protection, it can be considered as specializing in public welfare activities for environmental protection as stipulated in Article 58 of the EPL. The public interest involved in litigation brought by a social organization should be relevant to its purpose and scope of business.

Article 5 Social organizations that have not been subject to administrative or criminal penalties for violating laws and regulations in their business activities within five years prior to the initiation of the lawsuit can be considered as no illegal record as stipulated in Article 58 of the EPL.

as environmental protection seminars, ecological expeditions, environmental protection publicity and education and environmental public interest litigation. As demonstrated by the justice in the judgment, although the GDF is not mainly engaged in reforestation, endangered species protection, emission reduction, environmental restoration and other actions that directly affect the ecological environment, its activities are conducive to improving the environmental governance system and raising the public's awareness of environmental protection (the Judgment of Guiding Case No.75, p.5).

The third aspect is whether the public environmental interest that the GDF sought to protect are relevant to its purpose and scope of business. This relevance can be used as the criterion to assess whether one social organisation specialises in environmental protection activities for the public interest, as explained in Article 4 of the Interpretation of Environmental Public Interest Litigation. This provision aims to ensure that social organisations have 'the appropriate litigation capacity in the court. Even if a social organisation's lawsuit does not correspond to its purpose and business scope, the court should still confirm the social organisation's subject qualification for bringing a lawsuit if there is some connection between the environmental elements it protects and the matter' (Ibid., p.5). Considering the above three aspects, the SPC finally opined that the GDF meets the stipulated requirements imposed on social organisations to file the environmental public interest lawsuit. The justices returned the case to the original intermediate court to apply its newly-announced ruling — the GDF is eligible to file the environmental public interest lawsuit.

The GDF is a national public welfare foundation approved by the State Council, supervised by the China Association for Science and Technology[86], and registered by China's Ministry of Civil Affairs. It helps to combat the deterioration of the environment and provides a wide range of social services for people's well-being. From the evidence submitted by the GDF to the court, it can be concluded that the foundation has an excellent record and has made a lot of achievements in pursuing a greener future. Aimed at promoting social and political changes in the environmental protection field around China by advocating environmental policies and providing service in

[86] China Association for Science and Technology, founded in 1958, is a constituent unit of the Chinese People's Political Consultative Conference. It is an important channel of socialist consultative democracy and a highly regarded institution of the national governance system.

environmental disputes, the GDF almost runs the gamut of environmental concerns for a good environmental cause.

The GDF is a charitable organisation based on public environmental interests. In addition to social groups and social service agencies, foundations constitute a major part of social organisations according to China's regulations[87]. In China, foundations fall into the category of social organisations according to current regulations[88]. Generally, the social organisation label is given to non-profit entities in China to perform their own social missions. The social organisation (*pinyin: shèhuì zǔzhī*, *Chinese: 社会组织*) is a special reference in the Chinese political context, similar to non-profit entities.

In Guiding Case No.131 (2015)[89], the All-China Environment Federation (ACEF) v. a building material company, the defendant also questioned whether the plaintiff is eligible for lodging complaints. ACEF is a non-profit organisation legally established in 2005, whose activities conform with all the requirements stated in the above Guiding Case No.75. The court recognised that the ACEF's eligibility to file environmental public interest lawsuits in its decision. Considering the limited length of this section, this section does not go into the details of this case that shows many similarities with Guiding Case No.75.

B. The vulnerable situation of the individuals

Environmental governance cannot be complete without the engagement of individuals. However,

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[87] See Opinions on reforming the management system of social organizations for its healthy and orderly development, issued by the General Office of the Central Committee of the Communist Party of China and General Office of the State Council on 21st, August 2016.

[88] The researcher learned from the official website of China's Ministry of Civil Affairs that, the Directorate of Social Organizations replied to one netizen in the message area on 9th, June 2021, that regulations governing social organizations are currently underway of formulation, after the public consultation on the draft regulations had end on 1st, September 2018 (see: http://lyzx.mca.gov.cn:8280/consult/showQuestion.jsp?MZ=5970703096, last visited: 2020/07/12).

[89] A short summary of Guiding Case No.131 is provided in 3.2.4-A (for reference, please check p.108).

individuals are often in a weak position compared to companies, social organisations, public branches, *etc*. Judges should always take into account the issue of susceptibility, especially in light/noise-relevant cases. Also, in water-contaminated situations, the impacts of chemicals on people with different genetic characteristics and mental statuses are vastly different. Thus, susceptibility is a critical foundation for the consideration of different risk management strategies.

In a trial, the claimed party usually needs to assume the responsibility for providing evidence to prove the truth of facts and succeed in its claim. Unlike the general fault-based liability rule in civil cases where the claimant is typically responsible for putting forth sufficient evidence to support their allegations, the Tort Law lists environmental pollution as a kind of special tort[90]. The particularity lies in the reversal of the onus of proof, implying that 'tightened liability' (Giesen 2010, 22) is imposed on the polluter irrespective of the individual's fault (strict liability). To exempt from or mitigate liability, the polluter party shall prove that his conduct is not related to the damage caused by environmental pollution. The rationale behind this legal principle is that: environmental pollution is inherently characterised by a long incubation period, complex damage calculation and diverse circumstances. To prove the causal relationship, it usually requires scientific monitoring, chemical analysis, technical laboratory tests, *etc*. Considering the difficulty in providing scientific and technological evidence, the claimant (the plaintiff or appellant in different cases) is thus in a disadvantaged position.

Under the rule of reversing the burden of proof, in Guiding Case No.127 (2014)[91], the appellants were required to prove the fact that the claimed ship-building company carried out the pollution act that caused damage to them and submit the *prima facie evidence* (some specific evidence used to support arguments needs to be proven in cases) of the possible causal relationship between the pollution act and the damage. In contrast, the enterprise should prove its conformity with the required standards for production to support less/no responsibility. In this case, the switch of the

[90] The Tort Law come in force in 2010 is now expired with the Civil Code entering into effect on 1 January 2021. Article 66 of the Tort Law: 'For disputes arising from pollution of the environment, the polluter shall bear the burden of proving non-liability or diminished liability in accordance with the provisions of the law and the non-existence of a causal relationship between their actions and the damage'.

[91] A short summary of Guiding Case No.127 is provided in 3.2.1-A (for reference, please check p.77).

burden of proof exhibits both the normative bias towards vulnerable groups and the de facto favour.

C. **Public engagement**

As mentioned in the first chapter, public engagement is an indispensable part of environmental governance. Since the focus of this paper is on environmental legal disputes, the content under this indicator can provide people with access to environmental information and dispute resolution when they are involved in disputes.

·**Access to information**

People's access to information should be examined in a dynamic process – before, during and after decision-making.

The public trial is one of the principles for the adjudication work of the SPC[92]. Art. 134 of Civil Procedure Law (2017) stipulates that 'courts at all levels shall publicly hear civil cases except those involving state secrets, individual privacy or previously provided by law. Divorce cases and cases with trade secrets could not be heard in public if a party is not agreed'. From Row B of the Table 3.3 below, we can see that almost all guiding cases were conducted by open trials except for the judgment of Guiding Case No.75, which is not mentioned in the judgment. Open trials provide the concerned parties with a fair adjudication and a public demonstration of fairness so that the public can learn about the justice system and be a witness of the realisation of justice in the courtroom (Burger, 1980).

In the judgments of guiding cases, some relevant dates were extracted to examine how long a lawsuit usually takes and when the public could have access to the court decision, including the 'acceptance date' (when the court accepted the complaint officially), 'trial date', 'judgment-making date' and 'publishing date' (when the judgment was published to the public). Some of the aforementioned dates are missing in a few cases such as Guiding Case No. 75 & 138 without the

[92] For more information, see http://english.www.gov.cn/archive/china_abc/2014/08/23/content_281474982987258.htm.

acceptance date is mentioned and No.128 without the trial date. From the given dates, a general idea of the duration of the legal proceedings can be obtained. The parties have to engage in the whole legal process, with the disputes lingering in their minds during the period between the 'acceptance date' and the 'judgment making date'. It can be learnt from Table 3.3 that the length of the period in each case varies from 2 months to 16 months in Row H, with the mode 5, also the median[93], of the numbers in Row H for reference. The calculated period is certainly shorter than in practice. The party shall learn some legal knowledge to prepare the relevant materials for a lawsuit. After reviewing the motion of a complaint, the court will accept the lawsuit if conforms to the law. The reviewing period varies in different lawsuits and is usually not displayed in the judgment. In this case, the period before a lawsuit enters the court is not ignored. It is safe to presume that, for all parties, filing a lawsuit is quite time-consuming. Thus, a speedy and fair trial is expected by the relevant parties, as well as the public, because a long delay implies more financial and manpower burdens for society. The aim of speedy trials is to most effectively ensure that justice is achieved without an excessive delay rather than stealing empty court hours. It falls onto the shoulders of the government to consider how to optimise the allocation of the judicial staff to principal areas or improve the procedures for different lawsuits.

A second observation from the taken dates is the time period on how long the public could have access to the court decision. The set of data in Row I of Table 3.3. shows great changes, with the minimum of 0.5 months and the maximum of 61 months. The publishing date can be influenced by many factors. For instance, the effect of a judgment is subject to whether the parties will seek an appellate decision and whether the court staff will post the effective judgment online in a timely manner. Row A 'page views' presents how many times the public has checked the specified judgment since the publishing date. The peak value appeared when the first guiding case in the environmental area was issued, which is probably because of the longest exhibition period, people's curiosity for the first environmental guiding case or the landmark acknowledgement of a social organisation's eligibility to file an environmental public interest lawsuit in Guiding Case No. 75. Even the most viewed guiding case had only 1020 visits until June 18th, 2021 (the

[93] The mode and median are both terms used in statistics to describe the concentration trends of one data set. The mode refers to the number that occurs most often in a set of data. The median is the number in the middle of a set of data arranged in order.

judgment was downloaded at 18:35), it is a relatively small number compared with that of environmental disputes in China. According to China Environment & Resources Trial (2020), there were 253,000 environmental lawsuits merely in 2020, including cases regarding environmental pollution, ecological damage, natural resources damage, climate change, ecological and environmental governance and services and public interests. The application subjects of guiding cases cover all litigation participants, and appellants (31%), judges (25%) and plaintiffs (18%) account for approximately 74% of the total application body (Guo & Sun, 131). Besides, the plaintiffs/appellants usually have lawyers to promote legal proceedings. Therefore, legal experts (lawyers and judges) have rarely checked the guiding cases, at least from the China Judgements Online database.

·Access to dispute resolution

Since not all individuals have the resources, capacity or willingness to file a lawsuit given the disadvantages of the lawsuit, they usually take it as the last resort to defend their rights and interests. As shown in Row C of the Table 3.3, the majority of the guiding cases sought alternative modes of settlement to address disputes in the pre-filing stage. The most common way is to make complaints or report to relevant authorities. Also, community centres can provide dialogue and other solution services. In a word, alternative dispute resolution is a key component of the civil justice process.

Guiding Case No.130 (2017) is an example to show the court's efforts to save litigation time. Chongqing Municipal Government and Chongqing Liangjiang Voluntary Service Centre[94] (the voluntary centre) filed a lawsuit against two companies, respectively, for their discharge of wastewater. The court decided to merge the two lawsuits, with the consent of the two parties, into a single trial as they are based on the same facts. The Civil Procedural Law (2017)[95] stipulates that

[94] It is a non-profit environmental protection organization, registered in Chongqing Civil Affairs Bureau in 2011 and under the charge of Chongqing Civilization Office.

[95] Article 52 of the Civil Procedural Law (2017): 'Where one or both parties are two or more persons and the object of the litigation is the common one, or where the object of the litigation is of the same kind and the people's court considers that the proceedings can be consolidated with the parties' agreement, the litigation shall be held jointly.'

joint action can be applied when a lawsuit is filed by two or more plaintiffs to achieve the same objective. Guiding Case No. 136 (2016) is also characterised by the merging of multiple accused persons into a single trial. In this case, the procuratorate sued a hospital and local Health and Family Planning Bureau for the same act of medical sewage pollution. In order to improve the efficiency of the proceedings and ensure the uniformity of the court's results, the ad litem judges decided to hear the two trials together and make separate decisions[96].

In Guiding Case No.139 (2017), the district environmental protection agency conducted an inspection in response to the public's complaints about the air pollution caused by the building materials company. Since 2015, the plant has been the target of dozens of complaints about its emission of irritating odour and black smoke. The environmental agency also imposed an administrative penalty on the company in 2015. However, since no improvements were made, the residents reported the polluting company's negligence to the Central Environmental Protection Inspectorate, which then delivered the pollution case to the district environmental agency.

The Central Environmental Protection Inspectorate is a new environmental policy with Chinese characteristics, involving a top-down process targeted at environmental problems through the administrative accountability of responsible officials. More details about this policy will be discussed later in Chapter 4, including some relevant contacts such as the telephone numbers of the Inspectorate, which are made available to the public so that they can report environmental issues to the Inspectorate.

In this case, the public first turned for help to the local environmental agency, expecting to crease the air pollution within the closest administrative power. Nevertheless, the odour was lingering for more than one year after the local agency's penalty (from 20th July 2015 to 17th August 2016). As a result, the residents reported the act of the polluting plant to a more powerful institution --

[96] Article 61 of the Administrative Procedure Law of China (2015): 'In administrative proceedings involving administrative permits, registration, expropriation, requisition, and rulings made by administrative agencies on civil disputes, the people's court may hear the cases together if the parties apply for the settlement of the relevant civil disputes together. In administrative proceedings, the people's court may rule to suspend the administrative proceedings if it considers that the trial of the administrative case needs to be based on the ruling of the civil proceedings'. For record, the current Administrative Procedure Law of China is the 2017 version, sustaining the same provision.

the Central Environmental Protection Inspectorate, which is led by the Central Government of China.

Table 3.3 Basic information of 15 Guiding Cases

		Guiding Case No.	75 (2016/12/28)	104 (2018/12/25)	127 (2019/12/26)	128 (2019/12/26)	129 (2019/12/26)	130 (2019/12/26)	131 (2019/12/26)	132 (2019/12/26)	133 (2019/12/26)	134 (2019/12/26)	135 (2019/12/26)	136 (2019/12/26)		137 (2019/12/26)	138 (2019/12/26)			139 (2019/12/26)
A	data in this row is collected by 18th, June 2021 (18:35–19:31)	page views	1020	240	324	340	977	974	608	767	261	341	384	116	104	244	65	159	85	323
B	/=not mentioned	mode of trial	/	in public	in public	in public	in public	in public	in public	in public	in public	in public	in public	in public	in public	in public	in public	in public	/	in public
C	1=make complimants or report to relevant authorities, 2=negotiation, 3=mediation, 4=arbitration, 5=administrative penalties, 6=administrative review	prefiling stage	/	/	1	1, 2	/	1	5	5	1	/	1	1	1	1	/	6	/	/
D	date: YYYY/MM/DD	acceptance date	/	2016/9/1	2014/2/10	2018/5/14	2018/9/26	2017/6/2	2015/3/24	/	2017/1/3	2016/3/25	2018/5/31	2016/3/1	2016/3/25	2017/1/13	2014/3/20	/	/	2017/1/9
E		trial date	/	2017/4/27	2014/2/28	/	2018/11/29 & 2018/12/4	2017/9/26	2016/6/24	2018/9/17	2017/2/21, 2017/4/10	2016/7/12	2018/7/24	2016/5/11	2016/5/11	2017/4/20	2014/4/28	2014/8/22	/	2017/2/16
F		judgment making	2016/1/28	2017/6/15	2014/11/21	2018/12/28	2018/12/4	2017/12/22	2016/7/18	2018/11/5	2017/5/31	2016/9/13	2018/9/28	2016/7/15	2016/7/15	2017/6/19	2014/5/21	2014/8/22	2017/7/31	2017/3/27
G		publishing date	2016/3/17	2017/11/12	2019/12/30	2019/2/19	2018/12/26	2018/7/20	2016/9/29	2019/1/14	2017/7/17	2016/11/1	2018/12/13	2021/3/18	2021/3/16	2017/8/2	2014/12/10	2014/11/14	2018/12/24	2018/9/28
H	rough calculation in months	legal proceeding duration (F-D)	/	9	9	7	2	6	16	/	5	5	4	4	4	5	5 months till the last instance			3
I		period before publishing (G-F)	1.5	5	61	1.5	0.5	7	2.5	2	1.5	1.5	2.5	56	56	1.5	6.5	3	17	18

Source: The official website of the SPC, updated by the author.

Note: Table 3.3 is part of a composite table with more details of each guiding case, enclosed as an appendix.

3.2.4 Coordination

It is important to set concrete tasks for different departments. More importantly, the mechanism for achieving the common goal in environmental protection should be systematic. Starting from the frontier law enforcement agency – the local environmental protection department, a general idea of the most direct contacts between the local environmental authorities and the environment polluter can be obtained. Their way to conduct environmental work shows the importance of environmental protection among all national activities. To better protect the public interest,

including the environment, China has established a special system[97], which authorises people's procuratorates to initiate public interest litigation. Procuratorates, as a kind of judicial organ, have been playing a critical role in the rule of environmental law in environmental governance as well.

A. The authority of local environmental protection departments

Local environmental protection authorities possess weaker political power than local governments, which have the power to give orders to local environmental protection authorities, with a central task to boost economic growth (China Daily, 2013). The allocation of authority among different government sectors would influence how laws and regulations are implemented in practice.

In Guiding Case No.131 (2015), the ACEF (a non-profit organisation) sued a building materials company for the air pollution caused by their production. According to the city's environmental protection monitoring centre, the emissions of sulphur dioxide, nitrogen oxides and smoke and dust from the company exceeded the emission standard in November 2013, January, May, June and November 2014 and February 2015, respectively. Consequently, the municipal environmental protection bureau imposed administrative penalties on the company in December 2013, September 2014, November 2014 and February 2015, respectively, with an amount of RMB 100,000 in each penalty. The company has been the subject of administrative penalties five times, with fines totalling RMB 500,000, plus one penalty from the provincial environmental protection department in December 2014. In March 2015, the local municipal environmental protection bureau ordered the company to immediately stop production and cease its excessive emissions of waste gas pollutants. Within one week, that is, after the ACEF filed a lawsuit for a major risk of harm to the public interest caused by the company's air pollution activities, the building materials company stopped production and prepared to move to a new location.

In this case, although the local regulatory authorities issued penalties for the company's repeated emissions of waste that exceeded the pollutant discharge limit, the company did not install the required dust removal, desulfurization and other facilities, failing to rectify the situation. The

[97] There are different opinions in academia about the system of people's procuratorates initiating public interests. More details will be given in Chapter 4.

municipal environmental protection bureau had been a frequent visitor to the company from December 2013 to March 2015. Multiple inspections without effective rectification also reveal the weak authority of local environmental protection agencies. At the same time, the company was only fined RMB100,000 administratively each time, either by the municipal sector or the provincial. This amount is quite small compared with the company's claimed operating costs for dust removal and desulphurization projects. The company sought a reduction in the damages by demonstrating their expenses in environment-friendly practices, asserting that it signed contracts with other companies for the supply, construction and installation of the facilities at a total agreed price of RMB 18.15 million (the Judgment of Guiding Case No.131, p.5). If the contract price was believable, the total administrative penalties (RMB 500,000) would only account for 2.75% of the costs of pollutant treatment equipment. In the light of the costs and benefits, it is reasonable to pay for administrative fines rather than building the required facilities for the company.

This case was initiated by the noise (e.g., explosions, gunfights, loudspeakers, shouts, *etc*.) and light disturbance caused by a film studio while they were making films at night. The residents reported the noise and light nuances to the villagers' committee[98], which had coordinated this issue with the town government, several corporations at stake and other departments, but without any achievements.

Guiding Case No.130 (2017) is a lawsuit filed by the local government. Chongqing Municipal Government and Chongqing Liangjiang Voluntary Service Centre[99] (herein after 'the voluntary center') filed a lawsuit against Cang company and Shou company for their discharge of wastewater. Located at a plating industrial park, Cang company is a centralised processing zone for the electroplating industry approved by the government in 2005. It was granted the pollution discharge

[98] The Villagers' Committee is a grass-root level autonomous organization elected by villagers of administrative villages in mainland China. It is established to ensure self-management in rural areas, and advocate villagers to manage their own affairs, educate themselves and serve their own needs. The government of a township shall give guidance, support and help to the villagers committee in their work, and the latter shall assist the former in its work. See: Organic Law of the Villagers Committees of China, 1988. http://english.mofcom.gov.cn/aarticle/lawsdata/chineselaw/200211/20021100050374.html, last visited: 2021/04/28.

[99] It is a non-profit environmental protection organization, registered in Chongqing Civil Affairs Bureau in 2011 and under the charge of Chongqing Civilization Office.

license and responsible for treating the wastewater from the electroplating park from 2012. This industrial park, where several plating enterprises were sited, has gained a lot of attention from environmental agencies with regard to the implementation of environmental mandates. In December 2013, Cang Company and Shou Company signed a Commissioned Operation Agreement on Electroplating Wastewater Treatment, in which Shou Company is trusted with the task of the wastewater treatment of the plating industrial park.

In April 2016, from an on-site inspection of the wastewater treatment station of Cang company, the enforcement officers of Chongqing environmental supervision headquarters found that the two total chromium reactors and one integrated reactor facility in the wastewater treatment station were not in operation, which led to the discharge of the produced wastewater into the external environment without treatment. The extraction of some samples revealed that the content of heavy metals in the effluent wastewater exceeded the relevant national standard. They also found that Cang company, as a sewage discharge license holder, provided Shou company with substandard wastewater treatment equipment through which untreated wastewater could be discharged directly into the municipal pipe network and then the Yangtze River. It was estimated by experts that a total of 145,624 tons of wastewater was illegally emitted from September 2014 to May 2016 (the Judgment of Guiding Case No.130, p.9). Consequently, the two companies incurred joint liability for their polluting actions.

In Guiding Case No.130 (2017), the environmental enforcement officers who were from Chongqing Municipal Environmental Supervision Headquarters and governed by Chongqing Environmental Protection Bureau inspected the inferior sewage treatment facilities of polluting enterprises after nearly twenty months of unlawful emissions. From the court files, it can be learnt that the Environmental Supervision Headquarters had investigated and handled the companies' discharge of wastewater more than once (the Judgment of Guiding Case No.130, p.6). Since the Environmental Supervision Headquarters carried out inspection and investigation activities in the name of the Environmental Bureau, the local government as a plaintiff designated the Bureau as the representative to participate in the court proceedings.

In Guiding Case No.136 (2016), the polluting hospital constructed a building without wastewater treatment facilities in 2012 and discharged medical sewage into soakaways. The local

environmental bureau imposed penalties on the hospital in 2014 and ordered it to apply for the approval of environmental projects. However, the hospital made no response to the rectification order because of its funding problems (the administrative Judgment of Guiding Case No.136, p.4).

In Guiding Case No. 138 (2014), a self-employed businessman has been processing and producing tempered glass since March 2011. On November 2, 2012, the District Environmental Protection Bureau found that the factory was suspected of installing a secret pipe to discharge wastewater. After investigation, the district environmental bureau made an administrative penalty decision, ordering the businessman to remove the concealed pipe and fining him RMB 100,000. The owner of the glass processing plant submitted a second appeal to the court, requesting the environmental bureau to revoke the penalty decision. However, the administrative penalty decision was sustained after the first, last instance and a retrial petition.

The processing plant insisted that the penalty of RMB100,000 is excessively high considering its weak adverse environmental effects. The judges supported the decision made by the district environmental bureau by taking into account the fact that the processing plant had committed a second violation (the first-instance judgment of Guiding Case No.138, p.7). According to Art. 75(2) of the Water Pollution Prevention Law (2008)[100], 'for polluters setting up sewage or hidden pipes privately, the environmental department shall order its removal and impose a fine of no less than RMB 20,000 but no more than RMB 100,000'. This provision endows the environmental protection enforcement authorities with the discretion to impose fines for the illegal installation of concealed pipes, but the exercise of this discretion should be justified by the appropriate grounds (the last-instance judgment of Guiding Case No.138, p.7). Since the bureau provided evidence to testify that the glass plant conducted production activities without EIA procedures and was punished once in 2012, the imposed penalty was within the prescribed range, even though the environmental bureau chose the top amount.

B. The People's procuratorates initiate environmental public interest litigation

[100] The current version of China's Water Pollution Prevention Law is revised in 2017.

Guiding Case No.133 (2017) is an environmental civil public interest lawsuit filed by the local people's procuratorate, which can be understood as the prosecutor's office[101]. From February to April of 2014, the defendants, two farmers, engaged in the hydrochloric acid cleaning of feldspar particles without any registration, safety inspection or environmental impact test procedures. Furthermore, they stored approximately 60 tonnes of waste acid generated during the operation in a secret pond in the factory yard. Consequently, the waste acid leaked and contaminated the soil and groundwater, then discharged through a drainage ditch into a river and causing water pollution. It was not until the end of April 2014 that the local public security bureau detected their illegal activities. On 1st June 2016, the defendants were sentenced to a term of imprisonment and a fine for the offence against environmental protection.

The former Tort Law (2009) stipulates that when a person has to bear administrative and criminal liability due to the same act, the civil liability he should bear shall not be affected [102]. According to Art. 55 of the Civil Procedural Law (2012)[103] , the authorities and relevant organisations

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[101] The people's procuratorate in China is the legal supervisory organs of the state and its organizational structure is corresponding to that of the people's courts. The procuratorates act as public prosecutors in criminal cases, reviewing cases investigated by the public security agencies, *etc*. The procuratorates exercise their authority according to law, independent of interference from any administrative organ, organization or individual person. It is responsible for the investigation and prosecution of corruption before 2018, when a new agency titled the National Oversight Commission was formally established for anti-corruption enforcement. For more information, please visit: http://english.www.gov.cn/archive/china_abc/2014/08/23/content_281474983043472.htm.

[102] Art. 4 of the former Tort Law: 'Article 4 Where a violator shall be held administratively liable or criminally liable for the same act, this shall not affect the liability in tort in accordance with the law. Where the tort liability, administrative or criminal liability shall be incurred for the same act, and the property of the violator is insufficient to pay, the tort liability shall be incurred first.' For record, this provision has been modified and incorporated into Art.187 of the Civil Code adopted in 2020.

[103] The current Civil Procedural Law, revised on December 24th, 2021, entered into force on January 1st, 2022. The last version was amended on June 27th, 2017, and Guiding Case No.133 held its last public hearing on June 1st of 2017. So, the court adopted the 2012 version of the Civil Procedural Law. The 2017 version added a second clause to Art.55 and granted the procuratorates the right to bring public interest litigation. It states, 'The People's Procuratorates may bring a lawsuit, when: they discovers, in the course of performing their duties, acts that harm the public interests of society, such as damage to the environment and resources, and infringement of the legitimate rights and interests of many consumers in the field of food and drug safety; if there are no agencies and organizations specified in the preceding paragraph; or if the agencies and organizations specified in the preceding paragraph do not initiate a lawsuit. If the agencies or organizations specified in the preceding paragraph initiate a lawsuit, the people's procuratorate may support the prosecution'.

specified in the law have the right to file bring lawsuits for acts that harm the public interest such as environmental pollution ones. As of December 22nd, 2016, there were no local environmental organisations eligible to serve as plaintiffs in public interest litigation (the Judgment of Guiding Case No.133, p.6). According to Art.14 of the Implementation Measures for Pilot Scheme on the People's Procuratorates Initiating Public Interest Litigation (adopted by the SPP on 16th December 2015), the people's procuratorates may file a lawsuit when there is no entity with the standing to sue. As the public interest litigant, therefore, the local municipal people's procuratorate is eligible to file a lawsuit against the defendants' pollution.

Guiding Case No.133 (2017) is the first published guiding case filed by the local people's procuratorate. This system enabled the organ to perform well its legal supervision function. After submitting their procuratorate opinions to the municipal environmental protection department, the municipal people's procuratorate suggested that the latter should conduct a comprehensive survey of the pollution discharge of other enterprises and small workshops in the polluted river basin (the Judgment of Guiding Case No.133, p.4). Finally, the latter department reported their inspection results to the people's procuratorate within one month.

There are strict pre-trial procedures before procuratorial organs file a public interest lawsuit. For civil public interest litigation, the local people's procuratorates shall urge the authorities prescribed by law or advise competent organisations to file the lawsuit. The people's procuratorates may also support the organisation to file a lawsuit if requested[104]. For administrative public interest litigation,

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[104] Implementation Measures for Pilots on People's Procuratorates Initiating Public Interest Litigation, Art.13: Before people's procuratorates raise civil public interest litigation, they shall perform the following litigation procedures: (1) Lawfully urging institutions provided for by law to initiate civil public interest litigation; (2) Recommending that relevant organizations in their jurisdictional area that meet the requirements of relevant laws, initiate civil public interest litigation. Where relevant organizations submit that they need people's procuratorates to support their lawsuits, [the people's procuratorates] may support them in initiating public interest litigation in accordance with relevant legal provisions.

The organs and relevant organizations provided by law that receive an opinion urging initiation of a lawsuit or a written procuratorial opinion, shall lawfully handle it within one month, and promptly submit a written reply on the situation to the people's procuratorate.

For record, the English translation of the Implementation Measures is taken from: https://www.chinalawtranslate.com/en/the-detailed-measures-for-pilot-projects-on-civil-and-administrative-public-interest-litigation-by-the-procuratorates/.

the local people's procuratorates shall first provide procuratorate advice for the relevant administrative agencies, urging it to rectify unlawful acts or perform its duties[105]. By overseeing the administrative authorities to achieve, develop and safeguard the public interest, the people's procuratorates can be better connected with administrative departments and social organisations.

In Guiding Case No.135 (2018), an electrical components company handed over 83 barrels of sulphuric acid waste liquid generated from its production to an individual who was not qualified for hazardous waste disposal in May 2015[106]. The hazardous waste was then transferred four times (starting from the company) in quick succession until it ended up in the hands of a lorry owner who was not licensed to transport and dispose of hazardous waste. Since the hired lorry owner was told to transport 15 barrels of the hazardous waste out of the local city and discard them at will, he poured 3 barrels into a field (in another city, 600 km away from the city where the polluting company is located) and left the other 12 there. After the local environmental officers found the 12 barrels of hazardous waste during an inspection in December 2015, the polluting company then handed over the 12 barrels of waste liquid to an environmental purification firm at a disposal price of about RMB100,000 in October 2016. For the dumped 3 barrels, the company paid RMB200,000 for the local government's environmental remedy. In 2017, the local county people's procuratorate (district attorney) proceeded against the five defendants for the illegal disposal of hazardous waste.

In 2018, the local municipal people's procuratorate sued the company and other four persons after pre-litigation notice as required by law. As the public interest litigant, the people's procuratorate demanded compensations from the polluters for the ecological restoration costs caused by the dumping of three barrels of sulphuric acid waste and the illegal disposal of other 68 barrels. The

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[105] Ibid., Article 40: Before initiating public interest litigation, people's procuratorates shall first issue a procuratorate recommendation to the relevant administrative department, urging it to correct unlawful conduct or perform its duties in accordance law. The administrative organ shall handle it in accordance with law with one month of receiving the written procuratorate recommendation, and promptly report back in writing to the people's procuratorate on the handling.

[106] The Law on the Prevention and Control of Environment Pollution Caused by Solid Wastes (2016), Art. 57 stipulates that entities engaged in the collection, storage, disposal of hazardous wastes business activities, must apply to the environmental department for an operating licence. It is prohibited to provide or entrust hazardous wastes to units without an operating licence to conduct those collection, storage, utilization, and disposal activities of hazardous waste. For record, the current law on Solid Waste was revised in 2020.

company argued that they had already compensated the local county government for the environmental remedy caused by the three dumped barrels and thus the corresponding compensations claimed by the public prosecutor should be waived. The court determined that 'since there is no evidence showing that the RMB200,000 compensation has been used for ecological restoration, the defendants are still liable. If the payment is allocated to ecological restoration under the supervision of the municipal people's procuratorate after the implementation of the judgment, it can be offset accordingly in the execution' (the Judgment of Guiding Case No.135, p.9).

In this case, the judges affirmed the people's procuratorate's supervision of the environmental protection work of the local public authorities. Under the oversight of the prosecutor's office, local political agencies could improve their environmental practice. Since this case involves the inter-city movement of hazardous waste, usually from more developed areas to relatively backward areas[107], it requires coordinated efforts, such as the identification of contaminants, the investigation into polluters and the follow-up implementation of the court decision. Finally, it took about ten months (from December 2015 to October 2016, as mentioned in an earlier paragraph) to identify the responsible company in this case.

C. The joint work of different departments

Guiding Case No.134 (2016)[108] is about transboundary water pollution caused by a mining factory, which was located in Hubei Province and contaminated a reservoir within the Chongqing municipality jurisdiction. This reservoir provides drinking water for neighbourhood residents. The judgment displays the maximum restraint in pointing out the insufficiency of the administrative work, indicating that the EIA is 'incomplete and has obvious deficiencies' (the Judgment of

[107] In this case, hazardous waste was transferred from Suzhou to Xuzhou, both in the coastal province of Jiangsu. In 2015, when the case took place, the GDP of Suzhou was RMB 1.45 trillion (accessed from: http://www.suzhou.gov.cn/sztjj/tjnj/2016/html/gb.htm, last visited: 12/31/2021); while, Xuzhou's was RMB 531,988 million (accessed from: http://epaper.cnxz.com.cn/xzrb/html/2016-03/16/content_351526.htm, last visited: 12/31/2021).

[108] A short summary of Guiding Case No.134 is provided in 3.2.1-B (for reference, please check p.83).

Guiding Case No.134, p.12). This comment is based on the fact that the construction of the reservoir began in 2008, while the EIA procedures were carried out in 2010 and approved in 2011. Considering the pollutant discharge of the mining factory, its proximity to the reservoir and a large number of underground rivers, which are the sources of the reservoir, in the area, the local environmental authorities should have focused on the impact of the containment on the reservoir when conducting the EIA of the mine project at that time. Unfortunately, the reservoir was not addressed in the EIA due to the different provincial administrative areas of the reservoir and the factory (the Judgment of Guiding Case No.134, p.12). According to Article 23 of China's Environmental Impact Assessment Law (2016), 'if a construction project may cause adverse environmental impacts across administrative regions, and there are disputes over the EIA conclusions of the project between the relevant environmental protection authorities, the EIA document shall be approved by the competent environmental protection authorities at a higher level'[109].

In this case, the local environmental agency issued the EIA certification to the factory in 2011 under the condition that there were no wastewater treatment facilities. The Chongqing Municipal Government identified the reservoir as a primary protected area for centralised drinking water sources in 2013. Accordingly, the original basis for the EIA was changed, requiring the factory to take the reservoir into account and renew its EIA[110]. However, this was not the case, the mining plant commenced its operations illegally and caused transboundary water pollution in 2014. The villagers in the place of the pollution incident (in Chongqing municipality) reported to local authorities that the water in the reservoir was black and diffused an unpleasant odour. As responses, the contaminated water in the reservoir was sealed by the relevant authorities in Chongqing, and emergency measures such as the purification of the contaminated water with medicine were implemented. From the source of pollution, the relevant departments in Hubei Province gathered

[109] The current Environmental Impact Assessment Law of China is the 2018 amendment, still keeping this provision in Art. 23.

[110] China's Environmental Impact Assessment Law (2016), Paragraph 1 of Art. 24: 'If, after the environmental impact assessment document of a construction project has been approved, there are significant changes in the construction project's nature, scale, location, production process or measures to prevent pollution or ecological damage, the construction entity shall re-apply for approval of the environmental impact assessment of the construction project.'

the polluter factory and other personnel to clean the mineral clay, plug the underground river, *etc*. The Ministry of Environmental Protection (the national level) classified the reservoir pollution incident as a major environmental emergency. And the provincial environmental agency of Hubei where the polluter factory is located made an administrative decision to impose a penalty on the mining factory. Nevertheless, the agency did not perform the follow-up inspection of the factory's cleansing equipment refurbishment after receiving a huge amount of fine (RMB 1 million).

In Guiding Case No.136 (2016), the municipal people's procuratorate of Jilin Province (Northeast China) found that a hospital's newly constructed comprehensive building was not equipped with sewage treatment facilities, which led to the direct discharge of the hospital's medical effluent into soak pits and wells. In the samples taken from the medical sewage and the soil around the infiltration tank, some related monitoring indicators, such as the chemical oxygen demand, suspended solids and total residual chlorine, were found to exceed the national standards. The people's procuratorate also found that the district health and family planning bureau issued a medical institution occupational license to the hospital without submitting a qualified EIA report and failed to stop its illegal discharge of medical sewage timely. With the available information, the public prosecutor sued the hospital for its violation of the public environmental interest, ordering it to immediately stop illegally discharging medical sewage. As for the defendant, district health and family planning bureau, the public prosecutor initiated environmental administrative public interest litigation, requesting the court to confirm that, the bureau violated the law to verify the medical institution occupational license for the hospital. Besides, the people's procuratorate ordered the bureau to perform statutory supervision duties and urged the hospital to rectify its medical sewage purification treatment facilities.

The hospital was sponsored by the local government with public welfare functions. After the completion of the new building, the hospital has repeatedly written to the local government and the administrative department of sanitation for funds that support the construction of wastewater purification equipment since August 1st, 2013. However, the construction funds were not granted due to the financial restrictions of the government (the Administrative Judgment of Guiding Case No.136, p.3). The hospital then chose to purify its medical sewage with disinfection powder, which could not achieve the same effect as sewage treatment equipment does.

After receiving the recommendations of the people's procuratorate in the pre-litigation phase, the local government included the hospital's sewage treatment project into the government's centralised procurement plan. The hospital thereupon started the construction of sewage treatment equipment that 'would be ready for use in the near future' as stated in the court (the Administrative Judgment of Guiding Case No.136, p.3). It took approximately four months for the hospital to receive the funds after the people's procuratorate delivered recommendation to the local health bureau (from November 18th, 2015 to March 14th, 2016). In sharp contrast with the involvement of the people's procuratorate, the construction funds for sewage treatment facilities had not been in place for over two years (from August 1st, 2013 to March 14th, 2016), even though the hospital had applied multiple times (the Civil Judgment of Guiding Case No.136, p.2).

According to the Management Regulations on Medical Institutions (Art.1 & 40, 2016), the local government health branch is responsible for supervising and managing medical institutions within its administrative region. The responsibilities include the approval of the establishment, registration, inspection, accreditation of the practice of medical institutions, etc. In this case, the health bureau imprudently issued practicing certificates and failed to stop the discharge of sewage timely rather than taking substantial prior regulatory action, resulting in the continuation of the hospital's illegal discharge of medical effluent. Although the bureau performed its duty following the recommendations of the people's procuratorate, it was an ex post facto action (the Administrative Judgment of Guiding Case No.136, p.3).

Guiding Case No. 136 (2016) reveals that a single pollution incident usually involves different actors. In this case, the pollution is the consolidated result of the insufficient governmental investment in the hospital's environmental facilities, the neglect of regulatory duties of relevant executive authorities (the administrative branches) and the hospital's non-compliance with environmental requirements (the profitable entity). Accordingly, no single actor can successfully tackle environmental problems independently. That is to say, joint efforts are highly demanded.

3.2.5 Environmental expertise

As indicated in Chapter 1, environmental issues always possess a distinctive character of high technology. It is necessary to submit scientific and technical evidence in courts, either to verify the causal link between pollution facts and its damage to the environment or to reduce the responsibilities of one party. The adverse effects (*e.g.,* the underlying targets affected by specific environmental pollution acts) of environmental pollution (*e.g.,* the definition of one claimed behaviour as an illegal act according to laws) cannot be tied tightly (*e.g.,* the reliability of the provided medical/scientific/legal evidence on the association between pollution practices and the loss) to the exposure of hazards (*e.g.,* the identification of different chemical elements, the incubation period and modes of transmission among humans and other creatures, *etc.*) without the provision of evidence. To answer all the possible questions that may be posed in the court, environmental expertise across different areas is needed. Technical personnel can provide the relevant data, scientific experts can share insights into the provided data and explain complex science to people, and lawyers can offer the legal rationale behind the distribution of benefits among the involved parties.

A. The complicated calculation of compensations

One focal point in Guiding Case No.127 (2014)[111] is whether the ship-building company caused sea pollution. Commissioned by the original court, the Maritime Judicial Appraisal Centre of Dalian Maritime University issued an assessment report where satellite remote sensing monitoring technology was used to monitor the marine environment, and multiple interpretation methods were chosen to read satellite images. After confirming the existence of sea contamination based on the difference in the greyscale part between normal seawater and contaminated seawater, the technical staff further determined the location and drift-diffusion patterns of the contaminated seawater. Then who caused the contamination? By analysing the source of pollution, technicians excluded red tides, marine oil spills and other pollution incidents. The polluted sea area on the satellite imagery was most likely to be caused by the discharge or leakage of sewage from large enterprises. Since the shipbuilding company was the only large-scale enterprise in the region, the source of contaminated seawater with high iron levels was most likely to be produced by the dockyard during

[111] A short summary of Guiding Case No.127 is provided in 3.2.1-A (for reference, please check p.77).

the rust removal process. Besides the use of testing technology, the company has expert auxiliaries to question the technical evidence provided by the claimant. The expert auxiliary clause was first introduced in the 2012 version of the Civil Procedural Law of China. According to Article 79 of the current Civil Procedural Law of China (2017 revised), 'A party may apply to a people's court to notify the person(s) with specialised expertise to appear in court and provide opinions on an expert's opinions or specialised issues[112]'. The expert auxiliary (a teacher from the Ocean University of China) in Guiding Case No. 127 was thus admitted to the trial proceedings at the request of the party and with the permission of the court. He appeared to provide professional opinions on the relevant circumstances involving technical skills and specific issues. For example, regarding the above-mentioned assessment report, he proposed several technical arguments, including mislabelled geographical latitude and longitude and a lack of operational standards in the appraisal process.

Guiding Case No.129 (2018) is about ecological damage compensation. In 2014, a chemical company handed over 102.44 tons of waste lye (in three batches of 29.1, 20 and 53.34 tons, respectively) generated from its production process to two individuals who were not qualified to dispose of hazardous chemical waste and dumped the chemical waste directly into the Yangtze River (China's longest river). The Company was asked to pay a series of compensations including the environmental damage compensation, the complementary restoration compensation for the loss of ecosystem services, clean-up costs, assessment costs and other service expenses. These compensations were derived from different calculation occasions, with several experts' explanations for the calculation process in the court. Since the waste lye was dumped around midnight in remote sites, it was difficult to measure the contaminated areas (in the river) accurately, making it impossible to collect evidence timely to assess the loss of ecosystems. For example, according to relevant regulations, the technical experts chose the resource equivalence analysis method to calculate the ecological damage, obtaining the price of water by multiplying the volume of effluent by the unit price of water resources.

[112] Article 79 the expert auxiliary clause echoes to Article 76 of Civil Procedural Law (China), which says 'A party may apply to a people's court for the examination of a specialized issue for the verification of a fact. When a party so applies, both parties shall determine a qualified expert through negotiation; where such negotiation fails, the people's court shall designate an expert'.

The complexity of calculating compensation costs lies not only in the different constituents of compensation, but also in the actual effects of the paid expenses. Guiding Case No.75 (2016)[113] shows some concerns about environmental restoration. Three of the claims proposed by the GDF exhibit the organisation's professionalism. Firstly, the company was asked to restore the ecological environment or set up a special fund to restore the desert environment and entrust a qualified third party to perform the restoration. Secondly, in response to the first claim, the court was asked to organise the joint check of the company's restoration results by the plaintiff, technical experts, legal experts, the NPC representatives and members of the Chinese People's Political Consultative Conference. Thirdly, the company was asked to compensate for the loss of ecological functions before the completion of environmental restoration (the Judgment of Guiding Case No.75, p.1). Compared with the standard claims such as stopping the discharge of sewage and eliminating the pollution, these litigation claims pay more attention to the long-term effect of the polluted party's action. Social organisations are more professional than most individuals, considering more factors including the possible costs of remedial work and the actual results.

In Guiding Case No.130 (2017), Chongqing Municipal Government and Chongqing Liangjiang Voluntary Service Centre[114] (the voluntary centre) filed a lawsuit against two companies for their joint discharge of wastewater, requiring the defendant companies to bear the costs of the restoration of the ecological environment. In view of the long duration (18 months) and a huge amount (approximately 145624 tons) of the sewage discharge, together with the flowing state of the river, it is difficult to calculate the needed restoration costs (the Judgment of Guiding Case No.130, p.16). Thus, the assessment report on environmental damage, in this case, suggests that the damage should be quantified according to the imputed abatement cost.

The imputed abatement cost is one of the environmental value assessment methods for source treatment, which shall be applied under three circumstances according to an official paper[115]:

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[113] A short summary of Guiding Case No.75 is provided in 3.2.3-A (for reference, please check p.96).

[114] It is a non-profit environmental protection organization, registered in Chongqing Civil Affairs Bureau in 2011 and under the charge of Chongqing Civilization Office.

[115] It is a reply of the General Office of the Ministry of Environmental Protection to a request from Environmental Protection

1. where the fact of pollutant discharge exists, but the damage is unclear or the ecological environment has been naturally restored due to the untimely observation of the ecological damage or emergency monitoring, *etc*.

2. where the ecological environment cannot recover by restoration work.

3. where the cost of restoration work is much higher than the benefit.

It is a calculation of the expenditure to treat an equivalent number of emitted pollutants with the current treatment technology, taking into account other factors. More specifically, it is the cost that an industrial enterprise or wastewater treatment plant should spend to treat an equivalent amount of pollution discharged into the environment. The calculation formula is as follows: the imputed abatement cost = the discharge amount × the unit abatement cost × the adjustment coefficient. The adjustment coefficient is related to the hazards of pollutants, the sensitivity of the surrounding area, the exceeding degree of pollutant standards and the ecological functions of the affected area[116].

B. the unpredictability and potentiality of environmental impacts

In Guiding Case 128 (2018)[117], the real estate enterprise argued that the resident failed to prove the actual damage from his exposure to light released by the outdoor electronic display. The court consulted two professors from the Architecture and Urban Planning School of Chongqing University about light radiation issues. According to their opinions, in addition to the perceived visual effects (*i.e.*, the screen sends off a lot of glare), excessive light radiation can cause disturbance in the human biological clock. Due to the effects of two hormones -- melatonin and cortisol, people fall asleep at night as the light intensity decreases. Melatonin rises at night and

Department of Jiangsu Province on the application and calculation method of the imputed abatement cost in the assessment of environmental damage. The reply has been widely used in practice from the year of 2017, until the national standard 'Technical guidelines for identification and assessment of environmental damage (GB/T 39793.1—2020)' came into effect on January 1st, 2021.

[116] The formula to calculate adjustment coefficient is: $\gamma = (\alpha \times \beta + \omega) \times \tau$, γ-adjustment coefficient, α-hazard factor, β-Receptor sensitivity factor, ω-Environmental function factor, τ-exceedance factor. See: Technical guidelines for identification and assessment of environmental damage—Principal methods—Part 2: imputed abatement cost for water pollution (GB/T 39793.2—2020).

[117] A short summary of Guiding Case No.128 is provided in 3.2.2-A (for reference, please check p.90).

falls during the day, while cortisol does the opposite. Intense light radiation will lead to the disorder of people's physical processes. Although the effects are not visible in the short term, people can still suffer damage in the long term. In addition, the white light of LEDs has a blue light component, which can do irreparable harm to the human retina. However, it is difficult to precisely detect the danger of blue light outdoors by the existing measurements. The standards of exposure time and intensity are yet to be determined (the Judgment of Guiding Case No.128, p.4). With the delivery of scientific knowledge, the court finally exempted the plaintiff's responsibility for proving that he suffered damage from light pollution and recognised the plaintiff's physical and mental harm caused by the light pollution generated from the shopping centre's outdoor display[118].

The consequences of environmental pollution differ from those of general torts. The damage includes not only symptomatic and measurable ones but also subtle ones or temporarily asymptomatic and unmeasurable ones with current technology. Like in many environmental cases, light pollution is harmful, potential and covert to people. The damage will show visible/measurable signs over time, which is one dominant reason for the experts' revelation of the possible environmental impacts.

In Guiding Case No. 134 (2016)[119], the appellant mining company insisted that the institution identifying the environmental damage, the College of Water Science of Beijing Normal University, was not qualified for the assessment of environmental damage, given the fact that the College was not on the List of Recommended Institutions for Environmental Damage Assessment[120]. However,

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[118] Article 93 of the Judicial Interpretation of the SPC on the Application of the Civil Procedure Law of China (2015), 'The parties are not required to prove the following facts: (1) laws of nature as well as theorems and laws; (2) facts that are well known; (3) facts presumed under the provisions of the law; (4) facts presumed from known facts and the rules of daily life; (5) facts confirmed by a legally effective judgment of the people's court; (6) Facts confirmed by the effective award of the arbitration institution; (7) facts proved by valid notarization documents. The facts specified in the preceding paragraph shall be excluded, unless the parties have sufficient evidence to the contrary to refute them.'

[119] A short summary of Guiding Case No.134 is provided in 3.2.1-B (for reference, please check p.83).

[120] The List of Recommended Institutions for Environmental Damage Assessment is issued by the Ministry of Ecology and Environment of China (named as the Ministry of Environmental Protection before 2018). The Ministry has recommended 42 institutions in three batches by the end of 2021, 12 in 2014, 17 in 2016 and 13 in 2020. The environmental departments at all levels may provide the list to judicial and administrative authorities or other institutions and individuals for their reference when they

the according to the appellee (the Green Volunteer League of Chongqing), the list of recommended institutions is not administratively compulsory. In other words, environmental authorities may also inform the party concerned of other identification and assessment entities that are not on the recommendation list as stated in the annex to the list (the Judgment of Guiding Case No.134, p.3). The court adopted the appellee's opinion considering the expertise, professionalism and neutrality of the College of Water Science of Beijing Normal University. Professional and credible environmental damage assessment bodies are essential for environmental tort trials. Since different environmental cases have different requirements for technical equipment, environmental monitoring techniques and specialist personnel, it is a common phenomenon that the provided assessment institutions are incapable of undertaking the relevant identification task. Under the circumstances that the existing identification institutions are far from being able to meet the real needs of the environmental judiciary, the court should make full and flexible use of various identification and research institutions (the Judgment of Guiding Case No.134, p.14).

Apart from Guiding Case No.134, other cases involve arguments over the eligibility of environmental damage assessment entities. In Guiding Case No.129[121], the assessment institution, Jiangsu Society for Environmental Sciences, was also questioned on its qualification. The court adopted the assessment report submitted by the institution because it was designated as a pilot entity for environmental damage identification and assessment by the SPC and the former Ministry of Environmental Protection, respectively (the Judgment of Guiding Case No.129, p.13).

The expert who produced the environmental damage identification and assessment report is also a frequent visitor to the court. In Guiding Case No.130, 131 & 134, the experts were requested to be present in the court to make explanations for their assessment reports, including the sampling of contaminants, the procedural matters, the measurement criteria, *etc*. The commissioned environmental damage identification and assessment institutions should fulfil identification recusal, confidentiality, testimony in court and other obligations stipulated in the annex to the recommendation list. According to the SPC's judicial interpretation of environmental tort liability disputes (paragraph 2 of Article 9), the opinions of persons with specialised knowledge in the court

request information on environmental damage assessment and evaluation agencies.

[121] A short summary of Guiding Case No.129 is provided in 3.2.5 (for reference, please check p.121).

may be used as the grounds for the determination of the facts of the case after the parties concerned have cross-examined them. In the final decisions of the above-mentioned cases, the expert's opinions on the identification and assessment of environmental damage have been adopted.

3.2.6 Predictability of the judicial output

As mentioned in the first chapter, the environmental governance discussed in this paper falls into the category of good governance. The implementation of the law and regulations is undoubtedly a crucial criterion for good governance. How do different legal actors play their roles in the environmental law mechanism? To achieve extensive application over the temporal and spatial span, the wording of legal provisions is designed to be flexible. In some national or industrial standards, there is often a range of options, so as to provide their judges with a fairly wide berth in decision-making.

A. the judicial branch exercises its discretionary authority

In Guiding Case No.129 (2018)[122], the appellant claimed that the legal interpretation of the original court violated Art.35 of the 'Several Provisions of the Supreme People's Court on Evidence in Civil Litigation' (the Judgment of Guiding Case No.129, p.2). During the first instance at the local intermediate court, the Government of Jiangsu Province applied for an increase in the total amount of compensation from RMB 38,452,700 to RMB 55,328,500[123] after the judge interpreted relevant regulations. The higher court accredited the original decision made in the first instance and the former judge's proactive exercise of his power of statutory interpretation for the public interest.

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[122] A short summary of Guiding Case No.129 is provided in 3.2.5 (for reference, please check p.121).

[123] To provide a clearer idea of the number growth, it is an increase of RMB 16,875,800, about € 2,163,120, with 2018 annual average exchange rate of RMB 780.16 for EUR 100 according to China's National Bureau of Statistics. See: http://data.chinabaogao.com/gonggongfuwu/2019/0S04449412019.html.

Article 9 of the Interpretation of Environmental Public Interest Litigation provides,

> Suppose the court thinks that the plaintiff's claim is insufficient to protect public interests, the plaintiff can be suggested to change the claim or expand it by adding other claims, such as ceasing infringements and restoring to the original situation.

It is the task of judges who cannot avoid weighing one set of interests or rights against another to balance conflicting claims. In this case, the appellant (the chemical company) paid more compensation because of the legal interpretation of the court. Judges should make a distinction between legally protected property rights and rights that can be restricted for the public interest.

In Guiding Case No.131 (2015)[124] , the imputed abatement cost of air pollution was adopted to assess the environmental damage. In the court, the expert who produced the assessment report delivered professional knowledge related to the case, indicating that sulphur dioxide, nitrogen oxides and soot are precursors to acid rain. If emitted excessively, they could cause damage to property and people, which, in turn, will cause harm to the ecological environment and compromise the ecological functions of the atmosphere. In addition, the defendant company is surrounded by residential communities that are sensitive sites in the environmental protection domain. The imputed abatement cost can be 3-5 times in the residential area according to the Recommended Methodology for Environmental Damage Assessment (Version II). With the higher value of parameter 5 preferred, the operational equipment already invested by the defendant had no impact on the calculation of the virtual treatment cost, which does not include the factor of punitive damages (the Judgment of Guiding Case No.131, p.5). The plaintiff preferred the higher value of parameter 5 considering the great damage to residents in the neighbourhood. In the end, the judges adopted parameter 4 to calculate the compensation for environmental damage (the Judgment of Guiding Case No.131, p.8). As a result, the polluter company saved RMB 5.4764 million according to the final decision. From this case, it is unavoidable to reflect on the protection of local big enterprises, which are major taxpayers for the local government.

[124] A short summary of Guiding Case No.131 is provided in 3.2.4-A (for reference, please check p.108).

In Guiding Case No.135 (2018)[125], the people's procuratorate ordered the polluting company to pay for the ecological restoration cost caused by the undiscovered 68 barrels of hazardous waste. It can be learnt from the statements of the interrogated defendants and some witnesses that the company delivered a total of 83 barrels of waste liquid to the unqualified person for free disposal. Among the 83 barrels of waste, 12 were left in the field, 3 were poured, and the other 68 barrels remain unaccounted for (the Judgment of Guiding Case No.135, p.4). The company defended itself against the compensation for the corresponding ecological restoration cost, claiming that whether the 68 barrels of waste caused damage to the environment was not ascertained.

The court held that it is the obligation of hazardous waste generators to report and register the flow and disposal of hazardous waste. That is to say, individuals and entities who generate, collect, transport and dispose of hazardous waste should take measures to prevent hazardous waste from polluting the environment (Art. 52 & 53 of the 2016 Solid Waste Law). However, the company failed to fulfil the above-mentioned legal obligations. The public prosecutor has evidence to show that the defendant company generated 83 barrels of waste liquid in total. However, the defendant refused to provide relevant information on the disposal of the pollutants, hindering the identification of the destination of the pollutants. In this situation, the court could 'presume that the environmental pollution claimed by the plaintiff is established, which means the company should pay the ecological restoration cost for the other unfounded 68 barrels' (the Judgment of Guiding Case No.135, p.10).

As for the compensation for damage, the court found that it was unclear which environmental factors (soil, surface water or groundwater) and ecological functions were damaged by the illegal disposal of 68 barrels of sulphuric acid waste. Considering multiple possibilities, the court decided to use the imputed abatement cost to identify the ecological restoration cost. The court assumed that the 68 barrels had also contaminated the agricultural land by referring to the fact that the three barrels of hazardous waste were exposed to the agricultural land. Furthermore, the defendants failed to prove that the polluted environmental factors such as the industrial land have lower sensitivity than the farmland. According to the court, the decision on the amount of compensation

[125] A short summary of Guiding Case No.135 is provided in 3.2.4-B (for reference, please check p.114-115).

reflects ‘a modest penalty on national regulation evasion, transboundary movements and the illegal disposal of hazardous waste’ (the Judgment of Guiding Case No.135, p.10).

In Guiding Case No.138 (2014)[126], the plant owner claimed that he should not be subject to administrative penalties on the grounds that the discharge of water met the national standards and caused no damage to the environment. On the other hand, according to the court, although the water quality standards mentioned in the assessment report suggest that the wastewater discharged by the glass plant met the relevant standards, this does not justify the legality of the producer’s discharge of sewage from the concealed pipe, regardless of the legal standards (the First-instance Judgment of Guiding Case No.138, p.7). Art.22 of the Water Pollution Prevention Law (2008) forbids using methods, like setting up hidden pipes, to discharge polluted water. The legislative purpose of this regulation is to legally restrict and prevent any entity or individual from circumventing the supervision of environmental enforcement authorities by secret means.

B. Law practitioners in the environmental law area

Knowledge empowered practitioners play an essential role in applying environmental laws. Since environmental laws and regulations are still in their infancy compared with traditional property laws, judges have been exploring further avenues to resolve myriad environmental disputes and claims. Therefore, the pool of quality lawyers in the environmental area is still highly demanded.

In Guiding Case 128 (2018)[127], the industry standard proposed by the plaintiff is different from the national standard. The judges finally applied the national standard to the regulation of the luminance value of the shopping centre’s electronic outdoor screen. Why did the judges choose the national standard (600 cd/m²) over the industry standard (400 cd/m²)? Several reasons are mentioned in the judgment as follows: ‘the LED display involved in this case is located in a commercial area, the lighting expert’s opinion is taken into account, the LED display light is

[126] A short summary of Guiding Case No.138 is provided in 3.2.4-A (for reference, please check p.111-112).

[127] A short summary of Guiding Case No.128 is provided in 3.2.2-A (for reference, please check p.90).

different from direct lighting, and this case has specific circumstances' (the Judgment of Guiding Case No.128, p.9).

For the author, it is more likely to be a determination rather than an effort to convince the audience with rational scientific/legal reasons. For example, the judgment fails to detail the differences between LED displays and direct lighting to make it more reasonable to adopt the national standard, by merely indicating that 'there are differences between LED displays and direct lighting' (the Judgment of Guiding Case No.128, p.9). It is possible that the experts failed to detail the technical issues in the court, or that the paper judgment did not present these details. In a word, the court lacks legal logic when demonstrating this issue.

After some research, a better understanding of the judges' options can be gained from a normative perspective. Article 2 of the Standardisation Law (2017) stipulates that industry standards and local standards are both recommendatory standards. And the Evaluation Requirements also belong to a recommendatory national standard[128] (national standards can be divided into mandatory and recommendatory ones). Then the legal effects can be considered from the standpoint of the entry into force date. Article 14 of the Regulations for the Implementation of the Standardization Law (1990) prescribes that 'industry standards shall be abolished after the implementation of the corresponding national standards'. In this case, the Code for Lighting Design of Urban Nightscape (JGJ/T 163-2008) is an industry standard, which was introduced 10 years earlier than the national standard -- the Evaluation Requirements for Obtrusive Light of LED Panels (GB/T36101-2018). Thus, it is a justifiable option to prioritise the national standard over the industry standard in this case.

In Guiding Case 131 (2015)[129], the plaintiff, the ACEF, requested the defendant, an architectural glass manufacturer, to make a formal apology to society for its pollution through the media at or

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[128] See: http://std.samr.gov.cn/gb/search/gbDetailed?id=71F772D82D45D3A7E05397BE0A0AB82A. We can check the information of various standards on national public service platform for information, including the national, industry, local, corporate, group, international and foreign standards. The website is under the supervision of the National Standardization Management Committee of the State Administration for Market Regulation.

[129] A short summary of Guiding Case No.131 is provided in 3.2.4-A (for reference, please check p.108).

above the provincial level. The judges supported this claim and indicated that 'environmental rights are shared by the public. From an economic perspective, environmental resources belong to comprehensive property, while from an aesthetic perspective, a good environment constitutes the object of human spiritual activities' (the Judgment of Guiding Case No.131, p.7). The defendant's act of discharging waste that exceeds the emission standards of pollutants infringed on the public's spiritual environmental rights and interests of the clear atmosphere. As a result, it is liable for the environmental pollution caused to the public.

In Guiding Case 132 (2018)[130], the GDF also requested the defendant (a glass manufacturer) to make a formal apology for its pollution. It can be learnt from this case that the apology form of liability has become increasingly mature both at the content and the implementation levels. As stated in the judgment, '[the defendant glass company] shall publish an apology for air pollution in the national media within 30 days after the judgment becomes effective (the content shall be released after the review by the court of the first instance). If the company fails to perform the obligations, the court of the first instance will publish the content of this judgment in the national media, with the relevant costs borne by [the glass company]' (the Judgment of Guiding Case No.132, p.8).

The Civil Code (former General Rules of Civil Law) classifies making a formal apology as a form of civil liability [131]. In general, the apology form mainly applies to moral personality rights (*e.g.*, right to name, portrait, reputation and honour) and copyright as stipulated in Article 995 & 1000 of the Civil Code (2020). In practice, judges are applying this form of civil liability in other cases, such as neighbouring relationship cases (Beijing Fangshan District Court required the violator to make an apology in a fight over littering in 2006[132]) and pollution cases.

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[130] A short summary of Guiding Case No.132 is provided in 3.2.1-B (for reference, please check p.82-83).

[131] Article 179: The main forms of civil liability are: (a) cessation of the infringement; (b) removal of the nuisance; (c) elimination of danger; (d) return of property; (e) restoration to its original condition; (f) repair, rework or replace; (vii) continuation of performance; (viii) reimbursement of loss; (ix) payment of liquidated damages; (j) elimination of influence, restoration of reputation; (xi) making an apology. Where the law provides for punitive damages, the provisions thereof shall be followed. The means of incurring civil liability provided for in this Article may be applied separately or in combination.

[132] See: http://xazy.chinacourt.gov.cn/article/detail/2010/12/id/1590952.shtml.

In a response to the practice, Article 18 of the Interpretation of Environmental Public Interest Litigation (2015) issued by the SPC states,

> When environmental pollution and ecological damage have done harm to the public interest or have a significant risk of harming the public interest, the plaintiff may request the defendant to assume civil liability in different forms, such as stopping the infringement, removing obstacles, eliminating the danger, recovering to the original state, compensating for losses and apologising, *etc*.

For the victim, an apology has the function of psychological compensation. For the offender, an apology has the function of self-compensation and moral restoration. For society, an apology has the function of moral consolidation, legal authority re-establishment, punishment and education (Wang 2005, 27). Through the formal apology from the defendant company in the cases, it can be found that the judges were attempting to raise the public awareness of environmental protection by legal means. Besides, the recognition of the property value and spiritual value of environmental resources in the reasoning part is vital for the promotion of environmental law study in the academic area.

In Guiding Case No.132 (2018)[133], the appellant GDF opposed the compensation imposed on the glass manufacturer. The plaintiff held that the first instance only upheld the appellant's claim for the environmental rectification cost rather than the compensation for the loss of ecological functions caused by the appellee's illegal conduct (the Judgment of Guiding Case No.132, p.1-2). The GDF required the glass manufacturer to compensate for the *environmental damage* caused by its illegal emission of air pollutants in the first instance. However, the court indicated that the GDF did not specify the details of *environmental damage* in their claims. In the Recommended Methodology for Environmental Damage Assessment (Version II) (2014, p.7), environmental damage is defined as adverse changes, observable or measurable, in human health, property value or the ecological environment and its functions arising from environmental pollution or ecological destruction. Considering the definition of environmental damage, the judges believe that the GDF's request for 'environmental damage' shall include damage to ecological functions (the

[133] A short summary of Guiding Case No.132 is provided in 3.2.1-B (for reference, please check p.82-83).

Judgment of Guiding Case No.132, p.10).

In this case, the lawyer chose the compensation gap as a reason for the appeal. However, the judges had explained the decision made in the first instance from a legal perspective. The failure reflects the poor understanding of the lawyer in this case. According to a statistical analysis of the work of lawyers and legal services at the grass-roots level in 2020, there are more than 522,000 practicing lawyers in China by the end of 2020 (Ministry of Justice of China, 2020). Still, high quality lawyers in the environmental field face large vacancies.

C. The judgment document lacks a relatively uniform format

There are other regulations affecting environmental disputes in the substantial or procedural process. As judicial documents, judgments provide the public with some information on specific legal issues so that those who are in similar situations or interested in certain areas could access them for reference. Thus, it is important to ensure the uniformity of the judgment format to convey to the public a stable and clear idea of the law.

The trial date is missing in some judgments. For example, Guiding Case No.128 (2018) does not mention the trial date. Although the formal format of civil litigation documents issued by the SPC does not necessitate including the trial date [134], it can inform the public of the proceedings as performed in most cases. Second, for all the published judgments, they are labelled with the 'cause of the case' to guide people to find the most relevant cases they want. For all the guiding cases covered in this thesis, they are categorised as 'environmental pollution liability disputes', either air or water pollution.

[134] For reference of various styles of different litigation documents, see: http://www.court.gov.cn/susong.html.

Chapter 4 Evaluation of the environmental governance practices in China

The international environmental instruments mentioned in the first chapter show that the global attitude towards the environment has shifted from environmental management to environmental governance. The governance process links all the other changes, such as the relationship between economic growth and environmental protection, the promotion of public participation and the exercise of administrative authority and judicial power. In view of the theoretical basis for this thesis, there is still no clear definition of environmental governance. However, it is not always necessary to establish a definition as long as there is some measurement in the practical world. Based on the existing literature, five main indicators were collected in this study to enrich the understanding of environmental governance. Then the proposed five indicators (extended into six) in Chinese environmental litigation were examined, with a special focus on the fifteen guiding cases issued by the SPC. The study of the batch of environmental cases also exhibits the application of these theoretical indicators in practice. Combining the results of the sub-indicators under each indicator, this final chapter is to present the overall observation from the case analysis.

4.1 What is the status quo of environmental law implementation in China?

This chapter is an attempt to draw a panorama of environmental law implementation in China by concluding the case study results in the previous chapter. The indicators are the proposed criteria for measuring the quality of environmental governance. It is worth noting that the indicators are interrelated in the governance process. That is to say, none of them are isolated or independent from the others, and the combination of them would contribute to effective environmental governance. This dynamic interaction inspires us to perform a comprehensive investigation into one country's environmental governance. The factual output of the analysis was divided into six aspects, corresponding to the indicators of environmental governance. Horizontally, they are related to how the governmental sectors at the same level perform their duties to protect the environment, like the coordination among different branches. Vertically, they aim to examine the

practical interplay between the central government and local governments, like their joint measures to combat corruption.

The interrelationships among the indicators for measuring environmental governance

The indicators in Chapter 3 offer different angles to assess environmental governance. Since they are interrelated rather than well-defined layers, the exploration of these indicators should be conducted from a dynamic perspective, so as to assess environmental governance dynamically, from the formulation of laws to their implementation, from powerful officials to environmental experts and the public, from different governmental sectors to the central and local governments. The importance of different indicators may vary with the domestic circumstances in China, and one indicator would influence another in specific conditions as well. For example, an irresponsible team of government officials may interfere in the monitoring of environmental quality and impede the technical support for environmental governance.

A typical example is Guiding Case No.104 (2016), which involves the indicators of an open & responsible government and environmental expertise. For one thing, public officials should behave with integrity while carrying out their duties. For another, the appraisal mechanism for local officials seems to impose a heavy burden on local governments, which, to some extent, increases the possibility of their corrupt practices when producing environmental quality reports. In this case, the heads of the two environmental protection branches were sentenced to 19-month imprisonment and 22-month imprisonment, respectively, for the falsification of air quality data. The officers distorted the figures in the data collection of air quality by using cotton to fill the sampling facility to lower pollution data monitored by the air station. Similar corrupt behaviour in the collection of environmental data is not rare. According to a relevant follow-up report posted on People's Daily (Zhi, 2016), a total of 2,658 automatic monitoring facilities for pollution sources were found to operate irregularly or be used to falsify environmental data, with 78 cases filed in 17 provinces, autonomous regions and municipalities merely in 2015.

The monitoring staff of the environmental protection department, who were supposed to be the gatekeepers for the authenticity of the data, turned out to be the ones to cover the truth. Considering the role of the environmental monitoring data as a key indicator of the promotion of the officers, they might choose to conduct data falsification taking the risks of legal or administrative sanctions.

Technical support, like the environmental monitoring in this case, is essential for the identification of the pollutants in the ambient environment. Environmental monitoring data is the basis for environmental protection, and without accurate data, it is difficult to conceive targeted governance strategies. Therefore, reliable, honest and professional public officers are needed for the provision of real data for the public. The irresponsibility of civil servants will undermine the credibility of the authorities. Meanwhile, their misconduct shows a lack of respect for people's right to access information.

Governments' performance of their functions

As in chapter 2, the role of governments in carrying out environmental governance cannot be ignored. Besides their proper duties, they shall remain in an alert position and serve as an adhesive in the execution chain, during which generating appropriate policies and taking corresponding actions to promote administrative measures is an integral link.

Since disputes are the direct causes of litigation, the weaknesses of the government revealed in the empirical analysis are reiterated in this part without stressing what the government has done. The managerial staff did not identify whether 21 fishermen had a valid certificate to use the sea area until Guiding Case No.127 (2014) was brought to court. In Guiding Case No.128 (2018), the judgment mentions that apart from the one in 2018, there were three other complaints about the light pollution caused by the shopping centre's outdoor electronic display in 2014. It was not until 2018 that the city management committee took measures to address the light disturbance. The local forestry bureau involved in Guiding Case No.137 (2017) was extremely ridiculous. It quickly closed its administrative penalty decision after receiving the monetary fine from the company (the forestry destroyer) without regenerating the damaged forest in a stipulated period of three years. Then, following the recommendation proposed by the people's procuratorate in 2016, the local forestry bureau urged the employer (a villager hired by the company to destroy the wood) to recover the forest and replied to the people's procuratorate that the regeneration of the damaged forest 'has to terminate in view of the death of a villager' (the Judgment of Guiding Case No.128, p.2)'. However, the existing company was ignored by the forestry bureau, even though it was an employee of the villager and should have been primarily responsible for the deforestation.

Compared to economic growth, environmental protection still gains less attention from governments, though environmental performance has been incorporated into the officials' assessment index system. The governments as a whole perform unimpressively in terms of environmental promotion.

Central government v. local government

The treatment of odour pollution in Guiding Case No.139 (2017) benefited from the authority of the Central Environmental Protection Inspectorate, which is a working group set up at the Chinese central government's behest in response to weak environmental governance at the local level. Established in 2015, the central inspection system for ecological and environmental protection is characterised by strict accountability, high obligation and strong authority.

The exercise of the eco-environmental inspection can be divided into three major phases. In the preparation phase, the inspection team will carry out unannounced surveys and visits using new technologies such as satellite remote sensing and aerial photography by drones and other digital tools. Then the environment inspectorate, whose head is selected by the central government, will be stationed in the target province for a month's investigation task. In this phase, the inspectors will listen to reports from the public, review documentation and conduct spot checks to collect information. As a result, the public can 'participate effectively in environmental governance' (Huang 2021, 2207). In addition, they will also focus on the inaction and misconduct of local party committees, governments and relevant environmental protection departments. After investigation, the inspectorate will report the results to the provincial government. The provincial party committee and government should submit a rectification plan to the State Council for review and approval within 30 working days and inform the public of the follow-up implementation. Art.24 of the Regulations on Central Inspection Work of Ecological and Environmental Protection (2019) also stipulates that the inspection results will be used as an important reference for the comprehensive performance assessment and evaluation of local cadres (*e.g.*, rewards, punishments, appointment and dismissal).

The Regulations on Central Inspection Work of Ecological and Environmental Protection (2019)

provides detailed instructions on the principles, responsibilities, inspection objectives, content, working procedures and disciplines of the inspectorate. According to the Regulations, the inspectorate will be responsible for investigating the pollution issues of state-owned enterprises as well. The State Council and provincial and municipal government departments should pay more attention to the integration of economic development and environmental protection in the process of formulating and implementing regulations, policies, plans and standards. The inspection can be divided into three types, namely the routine inspection, special inspection and follow-up inspection, to strengthen local environmental governance comprehensively.

Local governments shall take into account their specific situations rather than adopting a one-size-fits-all formula. As indicated by Zhai (2019), some local governments choose to shut down all the plants in an industrial zone in response to the arrival of the central inspectorate, which would undermine the interests of legitimate enterprises and discredit the environmental protection cause. Therefore, the requirements for flexible solutions and feasible deployable capacities are reinforced by various scenarios and different characteristics of environmental issues.

Regarding the inefficiency of local environmental governance, the main inspection targets of the central inspectorate are local governments and environmental protection departments at all levels, that is, administrative agencies and their officials. The purpose of the inspection is to supervise the governments, improve the administration work of local officials in environmental governance (Huang 2021, 2207) and contribute to local economic growth and environmental protection.

Intractable coordination

The definition of the responsibilities and obligations of different institutions varies under different regulations and every sector has its proper interest group. Thus, coordination following their respective regulatory requirements is a challenge. Since each department focuses on its specific issues, most of which are interconnected, an integrated perspective would be helpful in pursuit of greater environmental benefits.

In light of the fluid nature of environment elements, many pollution incidents would cause transboundary complications, for example, Guiding Case No.134 (2016) is about transboundary

water pollution. The polluter (a mining company) generated economic benefits for one province while harming another province with its industrial pollution. Guiding Case No.135 (2018) also involves the across-city movement of hazardous waste, from a more developed city to a relative backward region. It requires coordinated efforts to fix these issues, such as the identification of contaminants, the investigation into polluters, the allocation of responsibilities and the follow-up implementation of the court decision. Therefore, a coordination mechanism is needed to address the conflicts of interests between different regions. Additionally, information-sharing is necessary when the policy change in one administrative region matters and is under disclosure, it should be quantified and considered in the environmental projects of the adjacent region.

As discussed in Chapter 3, local environmental authorities usually possess weaker political power than other governmental branches, like in Guiding Case No.131 (2015), No.130 (2017), No.138 (2014) and No.136 (2016). This allocation of power would influence how laws and regulations are implemented in practice, leading to problematic arrangements within different departments. A new management system has been formulated to hinder the cross-departmental unharmony. Since 2016, the monitoring, supervision and law enforcement functions of environmental protection agencies below the provincial level have been shifted into a vertical management system, so as to address the issue of local intervention in the institutional design, human and financial resources allocation and management authority of leading cadres.

At the institution level, provincial environmental protection departments have directly managed environmental monitoring agencies at the municipal (local) level to ensure the authenticity and effectiveness of environmental quality monitoring data. Moreover, the unified management of environmental law enforcement within the administrative area has been adopted at the municipal (local) level, which would maximise the independent exercise of law enforcement and strengthen the investigation into enterprises. At the financial level, the provincial environmental protection department has been in charge of the personnel appointment and working funds of municipal (local) environmental monitoring agencies to reduce the local control. Likewise, county-level environmental protection agencies and monitoring and enforcement agencies have been monitored at the municipal level. For the head of environmental protection departments, the director and staff at the local level have been under the provincial-level supervision to increase the regulatory capacity. With the restructuring of institutional affiliation, local environmental agencies have more

power to prevent the protection of local polluting enterprises.

Inspired by the 'cradle to grave' philosophy, China is developing an environmental protection mechanism of 'strict prevention at the source, strict control of the process and strict punishment for the consequences' (Lv 2021, 13), which is a whole-process management system that outperforms the traditional pollution prevention system. This comprehensive mechanism requires coordination between different departments along the production process.

Enforcement challenges faced by local environmental agencies

As shown in Guiding Case .130 (2017), the environmental authorities, at least before the 2014 amended EPL, had long been playing a limited role in overseeing pollutant discharge, conducting regular inspections of emission permits and ordering polluting enterprises to submit specific reports routinely. However, regular check-ups and paperwork may ultimately descend into a kind of 'formalism' in administrative or procedural matters, without any effects in practice.

Accordingly, new mechanisms have been created to deal with the difficulty in coordination. From the mechanism of the people's procuratorate initiating environmental public interest litigation, an overview of the establishment of a new system can be obtained. First, the NPC Standing Committee authorised the Supreme People's Procuratorate to conduct pilot public interest litigation in certain regions in early July 2015[135]. Then the Standing Committee reviewed the interim report on pilot litigation in November 2016. Finally, in June 2017, this system was formally established in amendments to the Civil Procedure Law and the Administrative Procedure Law.

[135] The NPC Standing Committee passed the decision on authorizing the Supreme People's Procuratorate to Conduct Pilot Work of Public Interest Litigation in Certain Regions in 2015. The certain pilot regions are Beijing, Inner Mongolia, Jilin, Jiangsu, Anhui, Fujian, Shandong, Hubei, Guangdong, Guizhou, Yunnan, Shaanxi, and Gansu, a total of thirteen provinces, autonomous regions and municipalities directly governed by the central government throughout China, for a two-year pilot period. The decision grants people's procuratorates the right to initiate public interest litigations in areas violating the lawful rights and interests of the public, such as ecological environment and resource protection, state-owned assets protection, transfer of state-owned land use rights, food and drug safety and so on. For more information, please visit: http://www.gov.cn/xinwen/2015-07/01/content_2888125.htm, last accessed at: 12/15/2021.

Following the decision and before the interim report, the SPP first issued a project plan for pilot litigation, putting forward the requirements for procuratorial organs in the pilot regions to conduct the reform, including the objectives, principles and other major issues of pilot litigation (*e.g.*, the scope of civil/administrative public interest litigation and litigation participants). It is worth noting that the focus of the people's procuratorate on environmental and resources protection in the pilot stage is highlighted in the administrative public interest litigation paragraph of the project plan[136]. Five months later (in mid-December), based on some practical experience, the SPP formulated the Implementation Measures[137] in lieu of the former project plan, adding more detailed guidance on procurators' work in civil and administrative public interest litigation. Then, the SPC released the measures as reference to instruct the courts' hearing of public interest lawsuits filed by the people's procuratorates in late February 2016.

The implementation system of procurators initiating public interest litigation has become increasingly concrete with the provision of guidance by different authorities. By September 2016, the people's procuratorates in pilot regions found 2,982 public interest case clues while performing their duties[138], and 2221 of them are in the field of ecological environment and resource protection, as mentioned in the interim report (Cao, 2016). Public interest litigation in the environmental area was continuously highlighted by the people's procuratorates, with 118012 cases filed from July 2017 to September 2019 and accounting for 54.96% of the total cases (Zhang, 2019).

According to an officer in charge of the SPP, the people's procuratorates, compared with other litigants, have their proper strengths in public interest litigation. Firstly, as national legal supervision organs, they are suitable for filing lawsuits on behalf of the state and public interests

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[136] The SPP issued the Project Plan for Pilots on Procuratorates Initiating Public Interest Litigation on July 3rd, 2015. For more information, please visit: https://www.spp.gov.cn/zdgz/201507/t20150703_100706.shtml, last accessed at: 12/16/2021.

[137] Implementation Measures for Pilot Scheme on People's Procuratorates Initiating Public Interest Litigation [in Chinese: 人民检察院提起公益诉讼试点工作实施办法] contains 58 provisions in four chapters. For more information, please visit: https://www.spp.gov.cn/zdgz/201601/t20160107_110537.shtml, last accessed at: 12/16/2021.

[138] Out of the total 2,982 public interest case clues, the procuratorates handled 1,710 public interest litigation cases, including 1,668 pre-litigation procedure cases and 42 litigation cases. See: http://www.npc.gov.cn/wxzl/gongbao/2017-02/21/content_2007646.htm.

as they are not involved in local and departmental interests. Secondly, they have statutory investigative rights, which are conducive to investigation and evidence collection. Last but not the least, they have professional teams, which can efficiently cooperate with courts in the legal process and can save judicial costs as well (Li, 2015). Considering its inherent strengths, this system can mobilise eligible organisations and increase social participation in environmental public interest litigation to some extent. Besides, the people's procuratorates have the function of legal supervision, stimulating administrative agencies to take the initiative to correct illegal acts.

Feasible legal guidance

In the light of varying individual occurrences, legal provisions cannot always indicate some concrete guidance when dealing with disputes. Especially in the field of environmental law, written texts are less adaptive to the emerging environmental issues bearing great uncertainty.

In Guiding Case No.139 (2017), for example, the odour pollutants from the building materials company were tested and identified based on the measures and limits stipulated in the emission standards for odour pollutants (GB 14554-93) formulated in 1993. After nearly 30 years, the emission limits and the monitoring and surveillance requirements for odour pollutants in the emission standards are out of date. First of all, as people's awareness of environmental protection is increasing gradually, the emission limits on some pollutants in the standards can no longer meet people's current and future requirements for air quality in the surrounding environment. Thus, there could be complaints against enterprises that conform to the emission standards (Ministry of Ecology and Environment, 2018). Secondly, the zoning of emission limits is stipulated in the emission standards. However, odour pollution is a nuisance to people's sense of smell and does not change significantly with the area. Hence, the principle of implementing corresponding emission limits for different zones needs to be abandoned. Thirdly, there is a lack of requirements for the main responsibilities of odour pollutant emitting units and regulations on the confined production, collection and treatment of exhaust gases. Last but not the least, the monitoring and analysis methods for odour pollution need to be updated.

It is pleasing to see that the emission standards for odour pollutants (Draft for Comments) were

published in December of 2018, following the Call for Inputs in 2010. According to the Ministry of Ecology and Environment, the existing enterprises would be provided with a transitional period of 1-2 years to adapt themselves to the new standards by making technical changes[139].

Water, air, soil, noise and solid waste are the main fields in environment-related litigation. Besides the five subcategories above, environmental pollution is an alternative that incorporates miscellaneous cases like those involving air and water pollution (China Environmental Justice Development Report 2020, 2021). There are 10 out of the involved 15 environmental guiding cases classifying the 'cause of litigation' as environmental pollution liability disputes (see the appendix for reference) without pointing out the specific subcategories. Moreover, almost all the involved judgments applied provisions of the EPL, with a few referring to the specific laws including Guiding Case No.128 citing Noise Law, Guiding Case No.138 quoting Water Pollution Law and Guiding Case No.139 pointing to Solid Waste Law and Air law. This indicates that the lack of detailed practical guidance on environmental laws, particularly in terms of refinement, has led to a tendency to rely on general environmental protection provisions.

The application of laws

Since laws present rough indications, occasional guidance and ultimate responsibilities, the rough nature of laws leaves room for judicial discretion. In this playground of legal experts, there is a mixture of weighing factors that pose challenges to legislation. The process of formulating and implementing legal provisions bears the expectations of stakeholders and the future of the debated subject, namely environmental issues in this sense.

In practice, the cost of lacking sound written standards will be transferred to the polluter party, e.g., Guiding Case No.127 (2014)[140]. To put it another way, administrative bodies are ineligible to face such societal disputes at the time of prosecution. It is their responsibility to formulate and

[139] For more information, please visit: https://www.mee.gov.cn/xxgk2018/xxgk/xxgk15/201812/t20181205_677368.html.

[140] A short summary of Guiding Case No.127 is provided in 3.2.1-A (for reference, please check p.77).

implement explicit regulations rather than leaving the consequences undertaken by the public. In courts, it is the normative points of view (i.e., the chemical plant failed to obey regulations), not factual situations (i.e., fish died, and the chemical plant leaked) to govern the allocation of responsibilities, if any.

If courts at the local level are free from the interests and influence of local administration, they will be willing and able to apply the law, even if the results do not coincide with local economic interests (Ahl Björn 2009, 367). A typical example of the lack of judicial independence is Guiding Case No.131 (2015)[141], in which the court chose to impose a lower penalty on the polluting company within the range provided by law. Since large enterprises are usually major tax contributors to local governments, the court is more likely to impose lower penalties on them due to the possible interference from local.

In Guiding Case No.129 (2018)[142] the court exercised its discretion as a guardian of public interest (the polluted river in this case), by extending the plaintiff's requests and adding other claims to cover the public interest loss. Heavier burdens on the polluted party are also found in Guiding Case No. 138 (2014) & Guiding Case No.135 (2018) where the courts made stricter decisions by condemning the polluters and claiming the damages for environmental pollution.

Public participation

In Chapter 3, public participation has been divided into three sub-indicators. Social organisations, as non-profit organisations in China, have been playing an important role in the environmental governance process. Although some attention has been paid to vulnerable groups, the public's engagement has a poor foundation, confronted by various barriers.

In Guiding Case No.75, all the threshold criteria stipulated in the Civil Procedure Law, the EPL and relevant judicial interpretations were examined, and the GDF was finally accredited as an

[141] A short summary of Guiding Case No.131 is provided in 3.2.4-A (for reference, please check p.108).

[142] A short summary of Guiding Case No.129 is provided in 3.2.5 (for reference, please check p.121).

eligible litigant to bring public interest lawsuits. Granting the GDF (a social organization) the right to participate in litigation is a significant step in promoting public participation in environmental governance. A participation mechanism centred on public and private entities has been stressed in many international environmental conventions, including the 1998 Aarhus convention and the 2015 Paris Agreement. Four environmental social organisations were involved as the litigant among the 15 analyses cases, including the GDF in Guiding Case No.75 & 132, ACEF in Guiding Case No.131, the Green Volunteer League in Guiding Case No.134 and the voluntary centre in Guiding Case No.130. These non-profit organisations, either founded by government sectors or originated from the civil society, are playing a significant role in promoting the environment.

From the analysis of the publishing date and page views, it can be found that the public have limited access to information. Personally, the author has encountered many difficulties while collecting research materials. The SPC requires a uniform format for guiding cases, which consists of seven parts, namely the title, keywords, the main points of the decision, the relevant provisions, the basic facts of the case, the results of the decision and the reasons for the decision[143]. In other words, the SPC compiles each guiding case briefly, usually in a few pages, before it is issued to the public. In Guiding Case No.138[144], three effective judicial decisions (two judgments of the first and last instance, plus one ruling of the retrial) are mentioned in the paragraph 'results of the decision'. For more detailed information on each case, the original court decision is adopted as the subject of research. However, the author could not find the ruling of the retrial (coded as '(2014) 成行监字第 131 号') in Guiding Case 138 from the database of China Judgements Online. For a second try, the author searched another database – the judicial case database of pkulaw, which was established by the law school of Peking University. Unfortunately, there were no results for the ruling of the retrial, either[145]. Thus, the author wrote to the court that made the ruling, indicating that 'the ruling mentioned in Guiding Case No.138 cannot be found' and asked whether they could

[143] SPC (2011) 'Notice of the Research Office of the Supreme People's Court on Issuing the Opinions on Style for Compiling and Submitting Guiding Cases and the Format for Guiding Cases', 法研〔2012〕2 号.

[144] A short summary of Guiding Case No.138 is provided in 3.2.4-A (for reference, please check p.111-112).

[145] For reference, you can visit: https://www.pkulaw.com/gac/f4b18d978bc0d1c792c6bbf0fbbe1324eb278548e460426bbdfb.html, last accessed: 22/12/2021.

offer the court decision. They replied the next day and suggested a check on China Judgements Online[146]. The author also wrote to both databases (China Judgements Online on December 19th, 2021; pkulaw on December 22nd, 2021) and is still waiting for a response. More weirdly, from China Judgements Online, the author obtained a ruling decision, which is in line with the information of Guiding Case No. 138 but with another case code '(2015)川行监字第29号' and was made by the higher court of Sichuan Province, instead of its capital city Chengdu intermediate court.

Another error in the compiled series of guiding cases is in Guiding Case No. 134. In the 'court decision' paragraph of this case, the case code was also misspelled. What is given in the Guiding Case is '(2016)渝02民终77号', while the correct judgment is coded as '(2016)渝02民终772号', which caused much confusion to the researcher.

For a researcher who has some background knowledge, there have been many difficulties in accessing information. Hence, how hard it is to obtain useful information for those who are from a different academic area and civilians who have limited education is imaginable.

The possibility of corruption

The international community regards corruption as a virus that cripples governments and a detriment to good governance (Leib 2011, 126). The delivery of public services is a bridge between duty bearers and right holders. In general, people live upon health care, education, energy, water, and other services provided by institutions (schools, hospitals…), giant corporations or public branches. How the services are delivered by these providers will impact the assessment of governance within a country. Fostering a culture of integrity and ethics within these organs is a prerequisite for the enhancement of their credibility, as well as the public's confidence in all other aspects of governance (Commission on Human Rights 2013, 17). Governmental agencies (*e.g.*, the

[146] For reference, the original reply is: 'Hello, Chengdu Intermediate People's Court, your submission has been received. After the case has come into effect, those that meet the conditions for disclosure will be made public on the Internet. We recommended you to check on the China Judgements Online. Thank you for your submission, goodbye.'

National Energy Department) bear the responsibility of providing some public services or, to a certain extent, have a significant influence on duty-bearers through agreements between the institutions.

China has introduced an oversight system to supervise its public officials and combat corruption. In November 2016, the CPC issued the 'Pilot Programme on the Reform of the National Oversight System in Beijing, Shanxi Province and Zhejiang Province'[147]. After more than one year of piloting, 'the Oversight Committee' was added to the chapter of 'State Institutions' of the 2018 amendment to the Constitution. According to Art. 127 of the Constitution, the oversight committee is empowered at all levels, nationally or locally, to exercise its power independently, without interference from administrative organs, public organisations and individuals. Additionally, the oversight committee shall, with mutual checks, coordinate with the judiciary, the people's procuratorates and the law enforcement agencies to handle duty-related illegal acts. In the 2018 Institutional Reform of the State Council[148], the former Ministry of Supervision and the National Corruption Prevention Bureau were abolished and incorporated into the national oversight committee. This reform, coupled with the anti-corruption-related (*e.g.*, corruption, bribery, abuse of power, waste of state assets and power rent-seeking) mandates of the SPP, transformed the National Oversight Committee into a centralised, unified and authoritative organ. Art. 15 of the 2018 Oversight Law of China lists the scope of public officials[149] under the supervision of the

[147] For more information, please visit: http://www.gov.cn/xinwen/2016-11/07/content_5129781.htm.

[148] For more information, please visit: https://web.archive.org/web/20180318120458/http://www.npc.gov.cn/npc/xinwen/2018-03/18/content_2050371.htm.

[149] Article 15 'Oversight authorities shall conduct oversight of the following public officials and relevant personnel: (1) Civil servants of organs of the Communist Party of China, organs of people's congresses and their standing committees, people's governments, oversight commissions, people's courts, people's procuratorates, organs of CPPCC commissions at all levels, organs of democratic parties and associations of industry and commerce, and personnel managed, mutatis mutandis, by the Civil Servant Law of the People's Republic of China. (2) Personnel engaged in public affairs at organizations managing public affairs upon authorization by laws or regulations or lawful entrustment by state organs. (3) Managers of state-owned enterprises. (4) Personnel engaged in management in public entities in education, scientific research, culture, health care, and sports, among others. (5) Personnel engaged in management at basic-level self-governing mass organizations. (6) Other personnel who perform public duties in accordance with the law.'

committee, covering all the personnel exercising public power. The committee is responsible for inspecting their performance of functions and investigating duty-related practices. Once illegal acts of public officials are found, the oversight committee will make supervisory recommendations to the entities where officials are under supervision, impose administrative sanctions on them, hold accountable the leaders, and transfer the investigation results to the procurator's office for a public prosecution (Art. 11-3, the 2018 Oversight Law).

One worth noting point in the judgment of Guiding Case 129 (2018)[150] is that a total of RMB 272,200 were excluded from the plaintiff's claim. The involved government asked the polluter to pay for the emergency response costs including the labour costs for the environmental monitoring agency staff, the accommodation costs for the emergency response personnel and some other expenses. However, the final decision did not acknowledge the claimed cost since they were not supported by invoices (the Judgment of Guiding Case No.129, p.14).

Similar circumstances happened in Guiding Case No.130 (2017), where the Chongqing municipal government, as one plaintiff, ordered the defendant to bear the costs of the identification and assessment of environmental damage in this case. The government only provided the contract signed with the Chongqing Institute of Environmental Science, without the invoice to prove the claimed costs of RMB 300,000. According to the court, the amount of RMB 300,000 'significantly exceeds' (the Judgment of Guiding Case No.130, p.18) the government-set guiding price stipulated in the Charge Catalogue and Standards for Judicial Appraisal. It is specified that for the judicial appraisal of cases involving property, accumulative fees will be collected in stages according to the proportion of the target amount [151]. With reference to the guiding price of Chongqing, the court finally supported RMB 50,000 considering the specific circumstances of this case.

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[150] A short summary of Guiding Case No.129 is provided in 3.2.5 (for reference, please check p.121).

[151] This document is issued by Chongqing Municipal Price Bureau and Chongqing Municipal Justice Bureau. It prescribes the charging standards as following: (1) For amounts up to and including RMB100,000, the fees shall be charged in accordance with the Annex to this notice; (2) For the portion exceeding RMB100,000 to RMB500,000 (including RMB500,000), the fee shall be charged at 1%; (3) 0.8% for the portion exceeding RMB500,000 to RMB1,000,000 (including RMB1,000,000)… (7) 0.1% for the portion exceeding RMB10 million.

This research is an attempt to explore environmental governance in China based on the guiding cases. However, the limited number of cases do not cover the 'corruption' indicator by coincidence. Additionally, the theoretical section assumes that a responsible and accountable government has taken anti-corruption into account, without singling out corruption as a separately environmental governance indicator. The above two cases involve a gap between the plaintiff's claim and the court's final decision. Both local governments failed to provide sufficient/solid evidence to support the rationality of the claimed amount of the expenditures for the litigation process such as the fees for environmental damage identification and the travel expenses of the staff. Consequently, the court decision only supports a proportion of the claimed costs, based on the evidence they provided. From the similar details in the judgments of Guiding Cases No.129 & 130, possible corruption of public servants is concluded in this thesis.

The local governments asserted the specific amount of expensed related to the case without convincing evidence (*e.g.*, invoices and purchase bills). The gap between what they claimed and what they could prove is quite suspicious. Without other detailed information in the judgment, and it is impossible to capture the panorama of the case. There are two possible reasons for the gap. Firstly, they did spend the claimed amount of money but lost the relevant invoices. However, the probability of this error is small as governmental officers have been trained to deal with similar administrative tasks prudently. Secondly, the claimed expenses are false. The gap is where corruption might exist and this allows the judges to play their part. In a word, corruption is possible in both cases.

4.2 Conclusions: Achievements and challenges

This final part provides a tentative final assessment and a response to the research questions of how and to what extent the patterns of environmental governance, as intended in the international debate, are present in the Chinese legal landscape. China announced its national targets of carbon peak by 2030 and carbon neutrality by 2060 at an international conference in 2021. The internationally announced sustainable development goals present an ambitious challenge for China, especially in connection with the current phase of its development. The magnitude of the challenge has accelerated the advancement of environmental governance. The analysis of the environmental

litigation cases carried out in the previous chapter provides a realistic picture of the interplay amongst various social actors in shaping environmental governance. Adopting a legal lens, we got to see how political and social actors, and also individuals, interact and manage conflictual situations via legal procedures. Here are some additional thoughts on how environmental commitments can be pursued in China.

4.2.1 Improving environmental law framework

International instruments are a tool for overcoming the drawbacks of domestic law when they lag behind. Sometimes, a court tends to using international legal instruments as a support when there are no clear domestic provisions regarding a specific issue. For example, Guiding Case No.75 (2016) cited the definition of biological diversity set in the Convention on Biological Diversity.

Article 26 of the Vienna Convention on the Law of Treaties (1969) [152] stipulates that the implementation and application of an international treaty by a state is conditional upon the fact that the state is a party to this effective treaty. In the area of Chinese Private International Law (2010), it is generally accepted that the parties may choose international treaties as the governing law[153]. The Shanghai Higher Court has specified in a foreign trust dispute (Shanghai Lansen Co. Ltd. v. Oversea-Chinese Bank Ltd. Shanghai Branch & Citibank, 2000) that 'the applicable law may be domestic laws, foreign laws, international treaties and international practice'. Many norms in the current Chinese legislation provide that 'Where an international treaty signed or acceded to by China has provisions different from those of this law, the provisions of the international treaty shall apply, except for the provisions of the declaration of reservations' (Song, 2015). This recognises that international treaties ratified by the government can be used in courts and have the overriding status over domestic laws.

The application of an international treaty at the domestic level must be subject to its acceptance by domestic law (Song, 2015). In terms of global practice, the application approach is either transposition or incorporation (Xu 2014, 73). The transposition of treaties into domestic law means

[152] Article 26 'Every treaty in force is binding upon the parties to it and must be performed by them in good faith.'

[153] Article 3 The parties may explicitly choose the law applicable to foreign-related civil disputes.

that international treaties to which a country is a party could be implemented or enforced domestically only after the national legislature has enacted the corresponding domestic law, such as the UK, Italy and Scandinavian countries. This corresponding domestic legislation may be a completely new law, an amendment or repeal of an old law, or a separate, simple piece of legislation declaring the domestic operation of a particular treaty. After conversion, the treaty would acquire the hat of domestic law. In theory, the State organs are performing the domestic law and not the pre-transformation international treaty. The incorporation of a treaty into domestic law means that the State has provided in its constitution or other legislation that a treaty to which it is a party and which has entered into effect has the force of domestic law or, if published, will have the force of domestic law. And China adopts the incorporation approach. A series of judicial interpretations and executive documents suggest that international treaties are directly incorporated into the Chinese legal system when they take effect for China under international law (Zhao 2010, 191). For example, Guiding Case No.75 (2016) quoted the provisions of the Convention on Biological Diversity in the judgment.

In China, the application procedures of international instruments are disseminated in various regulations without specific instructions in the fundamental laws. Even the fresh 2020 Civil Code[154] takes a silent stand on the application of international regulations (Che, 2020). From the norms present in various sources (Art. 16 of 1980 Income Tax Law for Sino-Foreign Joint Ventures, Art. 36 of 1985 Inheritance Law, Art. 189 of 1982 Civil Procedure Law[155], *etc*.) and the judicial practice, there are three methods in the application of international treaties in Chinese courts. For civil and commercial issues involving private interests, the courts choose direct application. For

[154] With regard to the application of international regulations, Article 142 of the former General Principles of the Civil Law of China (effective period: 1986-2020) provided that 'the application of law in civil relations involving foreigners shall be determined in accordance with the provisions of this chapter. Where an international treaty concluded or acceded to by China has provisions different from those of Chinese civil law, the provisions of that international treaty shall apply, except for the provisions of reservation. Where there are no provisions in Chinese law or in international treaties to which China is a party or has concluded, international practice may be applied'.

[155] For reference, Art. 36 of the 1985 Inheritance Law provides that 'Where treaties or agreements have been concluded between China and foreign countries, they shall be dealt with in accordance with such treaties or agreements'. Art. 189 of the 1982 Civil Procedure Law provides that 'Where an international treaty to which China is a party or participant differs from this Law, the provisions of that international treaty shall apply.'

treaties other than civil and commercial matters, the legislative structures would indirectly apply these through legislative transformation. For example, the implementation of international treaties on judicial assistance in criminal matters, human rights treaties, economic trade, *etc*. requires legislative measures by the Chinese legislature. Apart from the former two, the court may, at its discretion, apply the treaty directly and may interpret Chinese law in the light of the treaty, in case of a legal lag (Zhao 2010, 199). In the event of a conflict between an international treaty and Chinese domestic law, the effect of a treaty is lower than that of the constitution and higher than that of the law (Ibid., 206).

The judicial branch, for a long time, attached less importance to international conventions, due to the lack of constitutional provisions [156] (Zhao 2010, 191). Luckily, from Guiding Case No.75 (2016), we can see that courts are taking steps to quote international treaties when making decisions. Not only in environmental lawsuits. Courts have also decided a number of criminal, civil and commercial and intellectual property cases through the direct application of international treaties (Song, 2015). In Guiding Case No.75 (2016), the assigned court cited the definition of biological diversity in the Convention on Biological Diversity mainly to strengthen its reasoning in interpreting the domestic law, not as the sole basis for the judicial decision. We have traced a promising trend in a court decision four years later. Guiding Case No.174 (2015), whose judgment was issued in December 2020, has also applied provisions [157] of the Convention on Biological

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[156] China's Constitution (2018) have several provisions concerning the competent state authorities to conclude a treaty: Art.67, 81 & 89 separately states that the Standing Committee of the National People's Congress have the right to decide whether to accept a treaty or not, the state president has the right to ratify or repeal according to the Standing Committee's decision, and state council is responsible for the treaty conclusion process.

[157] The applied provisions of the Convention on Biological Diversity: Preamble, reaffirming also that States are responsible for conserving their biological diversity and for using their biological resources in a sustainable manner. Noting also that where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat. Recognizing that economic and social development and poverty eradication are the first and overriding priorities of developing countries.

Article 14. Impact Assessment and Minimizing Adverse Impacts 1. Each Contracting Party, as far as possible and as appropriate, shai1: (a) Introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures.

Diversity, to urge the hydropower station to evaluate its influence on the endangered wild plants. The court cited several considerations in the Preamble, such as, advocating countries to take responsibilities for conserving their biological diversity, even under the conditions of weak scientific certainty (the Preamble, the 1992 Convention on Biological Diversity) and Art.14-(a) on environmental impact assessment for projects that might adversely affect the biological diversity. Additionally, the court mentioned another provision on the priorities of developing countries (economic and social development and poverty eradication). Taking into account of all the provisions, the court required the hydropower station project to assess its possible environmental impact on the related wild plants, and the station cannot proceed its construction unless having gained the approval from the environmental administrative authority.

When the application of Chinese laws involves the provisions of international treaties, especially when applying Chinese laws that are transformed from treaties, Chinese courts can, where necessary, interpret Chinese laws with the help of international treaties. This is the appropriate judicial latitude for the specific application of the law in the courts' adjudication. We expect a significant quantity of Chinese environmental litigation cases to be applying international legal instruments and responding to global environmental initiatives.

4.2.2 Multi-level governance perspective

Environmental framework laws have set a legal foundation for multi-level governance with the existing provisions on people's access to information and decision-making, social organisations initiating environmental public interest litigation, *etc*. China has a 2,000-year history of a feudal dictatorship system, with highly centralized authority. The concentration of power casts a far-reaching and profound shadow on Chinese political tradition: administrative power has been prevailing throughout Chinese society. From a cultural perspective, the ancient philosophy of Confucianism was practiced during the dynastic China. As an official ideology, the Confucian approach placed great importance on personal and governmental morality, advocating restraint on individual behavior and following the social norms. These ideas have gradually permeated the ancient Chinese people and are still alive for the general public, leaving a long-lasting imprint on the Chinese social fabric. These traditions are a challenge for public participation, both for the

decentralization of power from the top level and for the willingness for participation of the grassroots.

The current environmental laws are evolving from administrative regulations to pluralistic governance (Lv 2021, 14). In this case, before the first soil contamination law came in 2018, it is the 1986 Land Administration Law, the 1991 Water and Soil Conservation Law and other relevant laws that regulate soil pollution. The incorporation of non-profit organisations and other organizations and individuals is a major effort in fostering the participation culture. I must point out that the public still has limited access to information, as the analysed results show in Chapter 3.

Environmental education is quite important to encourage the participatory enthusiasm among the public. Since lawsuits are usually high cost and time-consuming, people are reluctant to file lawsuits against air pollution or material loss or subsequent health threats caused by environmental pollution. Three of the 15 guiding cases involve individuals as plaintiff(s)/appellant(s), including Guiding Case No.127 (2014), No.128 (2018) and No.138 (2014). Governmental sectors, enterprises and organisations filed the majority of lawsuits, since because they are in a better financial position to receive more professional assistance than the general public. Remarks by Albert Einstein is proper to quote here, 'It is not enough for a handful of experts to attempt the solution of a problem, to solve it, and then apply it. The restriction of knowledge to an elite group destroys the spirit of society and leads to its intellectual impoverishment' (Caprice 2000). Principle 19 of the Stockholm Declaration suggests governments to take advantage of the mass media to 'disseminate information of an educational nature on the need to protect and improve the environment'.

There is an interesting phenomenon in mainland China. Some people post disputes or unfair experiences on social media, such as Weibo, to attracted people's attention. If the case arouses the interests of netizens, it may receive priority judicial remedies. This social trend has, to some extent, incorporated the public and other concerned actors into the governance process.

The state-led nature of environmental governance in China is unchangeable and indispensable. In 2010, the State Council issued a white paper and declared that a socialist legal system with Chinese

characteristics was established[158]. Environmental laws belong to both administrative law and economic law in the existing legal system (Lv 2022, 1). The Standing Committee of the NPC has positioned the codification of the environmental code in the 'field of administrative legislation', signalling that environmental laws are largely composed of administrative law norms (Lv 2022, 1). The administrative characteristic of environmental laws would strengthen the state power in regulating environmental disputes. Unlike what Bevir (2012, 218) says about western political regimes, stating that the state is not so important in the governance process for the fact that it is usually constrained and depends on other actors, the Chinese central government plays a more prominent role and operates free from other subjects and consortiums, thus it can realize most of its political agenda, or at least make it happen across the country.

In response to various deficiencies in the existing mechanism, the central authority could make greater use of the strong coordination powers it possesses. At the same time, local governments are more prone to stay in a safety zone without risking their official position. However, the analysis gives much hope that this environmental governance with Chinese characteristics would live up to future challenges, even though some other doubts may emerge in the process.

4.2.3 A law-based approach or a more pragmatic way?

The Chinese legislative mindset has shifted from 'reform first, then legislate' and 'reform while legislating' to 'all major reforms must be based on law' (China NPC Website, 2021), which is one achievement claimed in an official report on the 40th anniversary of the reform and opening-up policy. However, the results of this research show reservations about this expression of 'achievement'. We prefer to say that it is still a goal on process, or a challenge.

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[158] The original declaration in the white paper goes: 'Over the past 60 years, especially over the past 30 years since the reform and opening up, the CPC has led the Chinese people in formulating the Constitution and laws. Based on China's national conditions and reality, adapting to the needs of reform and opening up and socialist modernization, reflecting the will of the CPC and the Chinese people, a socialist legal system with Chinese characteristics had been formed by the end of 2010, through the persistent and concerted efforts of all parties. The socialist legal system with Chinese characteristics is led by the Constitution, with the laws of various legal divisions as the cornerstone, such as the laws related to the Constitution, civil and commercial areas, including laws, administrative regulations, local regulations, and other levels of legal norms, so that all aspects of the country's economic, political, cultural and social development, as well as ecological civilization, are governed by law. See: http://www.scio.gov.cn/zfbps/ndhf/2011/Document/1034943/1034943.htm.

The 1978 Reform and Open-up has changed China dramatically. Chinese governments have been exploring how to adapt domestic laws to the outside market economy since then. The law has a stable nature and cannot be changed overnight, is predictable for stakeholders, and has the potential to prevent conflicts. The Reform foresees 'changes', which must break through the original system or structures to make improvements. It is a challenge to seek modalities to adapt stable and foreseeable laws to evolving reforms. Generally speaking, at the beginning of the Reform and Open-Up process, major reforms were guided by the 'policies first' approach. There were explorations and mass experiments in various localities following the policy, and then, comparing various models and weighing the pros and cons comprehensively, legislation would be enacted on the premise that the practical experience is considered mature enough. As the Reform and opening up has progressed, experience is being accumulated and people's awareness of the rule of law has increased. More and more emphasis has been placed on the coordinated promotion of legislation and reform, and the model of 'legislation while reforming' has been implemented more often. Accordingly, in a given area, legal provisions would be more specific where practical experience has been tested successfully. In novel fields, where experience was scarce and yet the need to regulate the matters proved to be impelling, laws would focus on setting the principles and the overall legal framework. This vagueness could leave room for deeper reform, and applicable procedures would be supplemented with mature practice. We have observed this trend in the system of procuratorates initiating environmental public interest litigation.

In general, policies / political agendas have a significant impact on China's legislative work. Although the official document asserts that the current approach is that 'all major reforms must be based on law' (China NPC Website, 2021), it would be more proper to say that major reforms proposed by the central government could be justified by law. In other words, a legal foundation is necessary for a new policy to convince the public.

China has been selective in learning and borrowing from the experience of other countries in the process of exploring a practical sustainable development model (Guo 2012, 6). Some political agendas and legal approaches, such as procuratorates initiating environmental public interest litigation, arisen in accordance with China's specific national conditions, have their own characteristics. The Declaration of Rio stressed the importance of different domestic situations in Principles 2, 7, 9, 15, and 16. In the context of the specific social, scientific and cultural context

of one country, it is necessary to remain adaptive in the setting of environmental objectives, the technology and methods chosen to build a good environmental governance.

The environmental rule of law provides a framework for narrowing the gap between written environmental laws and their implementation, serving as the key to achieving Sustainable Development Goals. Nevertheless, laws do not always play a positive role in settling environmental disputes, possibly becoming ineffective in some cases due to the limitations of legislators. Still, the legal approach is a better choice than personal will and intention.

Considering the national circumstances, the law-based governance can be thought of as a pragmatic approach of environmental governance in China. As stated by President Xi (Xinhua, 2021), a comprehensive governance based on law should include 'the oversight of legislative, law-enforcement and judicial sectors, as well as improving the capacity of legal practitioners' during the process. The indicators proposed in this thesis could serve as measurements of the environmental governance practices. While recognising that there is a need to further develop the environmental governance in China, a systemic pattern, which is led by the government, oriented towards enterprises and joined by social organisations and the public, is supposed to contributing the country's environment cause.

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Appendix

The table below presents some basic information of the 15 environmental Guiding Cases involved in this research.

Guiding Case No.	case title	case code	province	court level	trial level	cause of case	type of case
			for cases decided in the supreme court, the 'province' refers to where the case happened, rather than where it was brought to court				
75 (2016/12/28)	中国生物多样性保护与绿色发展基金会诉宁夏瑞泰科技股份有限公司 环境污染公益诉讼案	(2016)最高法民再47号	Ningxia	supreme	retrial petition	environmental pollution liability disputes	civil
104 (2018/12/25)	李森、何利民、张锋勃等人 破坏计算机信息系统案	(2016)陕01刑初233号	Shaanxi	intermediate	first instance	destroy computer information system	criminal
127 (2019/12/26)	吕金奎等79人诉山海关船舶重工有限责任公司 海上污染损害责任纠纷案	(2014)津高民四终字第22号	Tianjin	higher	last instance	disputes over liability for marine pollution damage	civil
128 (2019/12/26)	李劲诉华润置地(重庆)有限公司 环境污染责任纠纷案	(2018)渝0116民初6093号	Chongqing	basic	first instance	environmental pollution liability disputes	civil
129 (2019/12/26)	江苏省人民政府诉安徽海德化工科技有限公司 生态环境损害赔偿案	(2018)苏民终1316号	Jiangsu	higher	last instance	environmental pollution liability disputes	civil
130 (2019/12/26)	重庆市人民政府、重庆两江志愿服务发展中心诉重庆藏金阁物业管理有限公司、重庆首旭环保科技有限公司 生态环境损害赔偿、环境民事公益诉讼案	(2017)渝01民初773号	Chongqing	intermediate	first instance	environmental pollution liability disputes	civil
131 (2019/12/26)	中华环保联合会诉德州晶华集团振华有限公司 大气污染责任民事公益诉讼案	(2015)德中环公民初字第1号	Shandong	intermediate	first instance	environmental pollution liability disputes	civil
132 (2019/12/26)	中国生物多样性保护与绿色发展基金会诉秦皇岛方圆包装玻璃有限公司 大气污染责任民事公益诉讼案	(2018)冀民终758号	Hebei	higher	last instance	environmental pollution liability disputes	civil
133 (2019/12/26)	山东省烟台市人民检察院诉王振殿、马群凯 环境民事公益诉讼案	(2017)鲁06民初8号	Shandong	intermediate	first instance	environmental pollution liability disputes	civil
134 (2019/12/26)	重庆市绿色志愿者联合会诉恩施自治州建始磺厂坪矿业有限责任公司 水污染责任民事公益诉讼案	(2016)渝02民终772号	Chongqing	intermediate	last instance	environmental pollution liability disputes	civil
135 (2019/12/26)	江苏省徐州市人民检察院诉苏州其安工艺品有限公司等 环境民事公益诉讼案	(2018)苏03民初256号	Jiangsu	intermediate	first instance	environmental pollution liability disputes	civil
136 (2019/12/26)	吉林省白山市人民检察院诉白山市江源区卫生和计划生育局、白山市江源区中医院 环境公益诉讼案	(2016)吉06行初4号	Jilin	intermediate	first instance	Health administration	administrative
		(2016)吉06民初19号				environmental pollution liability disputes	civil
137 (2019/12/26)	云南省剑川县人民检察院诉剑川县森林公安局 怠于履行法定职责 环境行政公益诉讼案	(2017)云2931行初1号	Yunnan	basic	first instance	public security	administrative
138 (2019/12/26)	陈德龙诉成都市成华区环境保护局 环境行政处罚案	(2014)成华行初字第29号	Sichuan	basic	first instance	administrative penalties	administrative
		(2014)成行终字第345号		intermediate	last instance		
		(2015)川行监字第29号		higher	retrial petition		
139 (2019/12/26)	上海鑫晶山建材开发有限公司诉上海市金山区环境保护局 环境行政处罚案	(2017)沪0116行初3号	Shanghai	basic	first instance	environmental protection administration	administrative

Guiding Case No.	page views	plaintiff (s)/ appellant(s)	defendant (s)/ appellee(s)	industry sector	mode of trial	prefiling stage	acceptance date	trial date	judgment making date	publishing date	legal proceeding duration (Q-O)	period before publishing (R-Q)
	data in column I is collected by 18th, June 2021 (18:35-19:31)	1=individual, 2=corporation, 3=social organisation, 4=government sectors, 5=environmental authorities, 6=a group of people, 7=the People's Procuratorates		the pollution activities conducted by the polluter party	/=not mentioned	1=make complimants or report to relevant authorities, 2=negotiation, 3=mediation, 4=arbitration, 5=administrative penalties, 6=administrative Review	date: YYYY/MM/DD				rough calculation in months	
75 (2016/12/28)	1020	3	2	chemical	/	/	/	/	2016/1/28	2016/3/17	/	1.5
104 (2018/12/25)	240	7	1	/	in public	/	2016/9/1	2017/4/27	2017/6/15	2017/11/12	9	5
127 (2019/12/26)	324	1	2	shipbuilding	in public	1	2014/2/10	2014/2/28	2014/11/21	2019/12/30	9	61
128 (2019/12/26)	340	1	2	shopping center	in public	1, 2	2018/5/14	/	2018/12/28	2019/2/19	7	1.5
129 (2019/12/26)	977	2	4	chemical	in public	/	2018/9/26	2018/11/29 & 2018/12/4	2018/12/4	2018/12/26	2	0.5
130 (2019/12/26)	974	3, 4	2	sewage disposal	in public	1	2017/6/2	2017/9/26	2017/12/22	2018/7/20	6	7
131 (2019/12/26)	608	3	2	building material	in public	5	2015/3/24	2016/6/24	2016/7/18	2016/9/29	16	2.5
132 (2019/12/26)	767	3	2	glass manufacture	in public	5	/	2018/9/17	2018/11/5	2019/1/14	/	2
133 (2019/12/26)	261	7	1	hydrochloric acid cleaning feldspar particles	in public	1	2017/1/3	2017/2/21, 2017/4/10, 2017/6/1	2017/5/31	2017/7/17	5	1.5
134 (2019/12/26)	341	2	3, 7 (support prosecution)	mining	in public	/	2016/3/25	2016/7/12	2016/9/13	2016/11/1	5	1.5
135 (2019/12/26)	384	7	1, 2	processing electrical components	in public	1	2018/5/31	2018/7/24	2018/9/28	2018/12/13	4	2.5
136 (2019/12/26)	116	7	4	hospital	in public	1	2016/3/1	2016/5/11	2016/7/15	2021/3/18	4	56
	104	7	2	hospital	in public	1	2016/3/25	2016/5/11	2016/7/15	2021/3/16	4	56
137 (2019/12/26)	244	7	5	/	in public	1	2017/1/13	2017/4/20	2017/6/19	2017/8/2	5	1.5
138 (2019/12/26)	65	1	5	glass manufacture	in public	/	2014/3/20	2014/4/28	2014/5/21	2014/12/10	5 months till the last instance	6.5
	159				in public	6	/	2014/8/22	2014/8/22	2014/11/14		3
	85				/	/	/	/	2017/7/31	2018/12/24		17
139 (2019/12/26)	323	2	5	building material	in public	/	2017/1/9	2017/2/16	2017/3/27	2018/9/28	3	18

Guiding Case No.	claims	relief (1 denied, 1- less than claimed, 1' completed already)	provided or not	proved the causal link between pollution and damage	providing institution (in the recommend list or not)	attendance of experts in courts	effect on the court decision	a list of applied provisions on the judgment/ruling	provisions applied
	1=cease infringements, 2=material damages, 3=physical health damages, 4=moral damages, 5=rescind an offficial administrative document, 6=publish an apology, 7=eliminate pollution, 8=modify the original court decision, 9=rescind the original court decision, 10=ask for (column U) /order (column V) a retrial, 11=uphold the original judgment, 12=environmental damage restoration costs		technical/scientific/medical evidence (Y=yes, N=no, D= do not required, /=not mentioned)					Y=yes, N=no	1=Tort Liability Law, 2=Property Law, 3=Civil Procedure Law, 4=General Principles of Civil Law, 5=Environmental Protection Law, 6=Noise Law, 7=Solid Waste Law, 8=Air Law, 9=Water Pollution Law, 10=Soil Law, 11=Judicial interpretation on environmental tort liability disputes, 12=Judicial Interpretation of Environmental Public Interest Litigation, 13=other laws & national regulations, 14=local regulations, 15=administrative procedure law, 16=administrative penalties law
75 (2016/12/28)	1, 2, 6, 7, 9, establish a special fund for environmental restoration	9, assign the jurisdiction to the first instance court	/	/	/		/	Y	3 (Art.55, 170-1,2, 207-1), 5 (Art.30, 58), 12 (Art.2, 3, 4, 5), 13
104 (2018/12/25)	crime of destroying computer information system	crime of destroying computer information system	Y	Y	Xi'an state-controlled automatic ambient air quality montoring station		accepted	N	5 (Art.68), 8 (Art.126), 13, criminal law (Art.286-1, 25-1, 26-1&4, 47, 61, 67-3)
127 (2019/12/26)	2, 9	2-, 9	Y	partly	Maritime Forensic Appraisal Center of Dalian Maritime University, Qinhuangdao Environmental Protection Bureau	Y	partly accepted	N	1 (Art.65, 66), 3 (Art.170-1,2), Marine Environmental Protection Law (Art.95)
128 (2019/12/26)	1, 7	1, 7-	N	N	N		None	N	1 (Art.65, 66), 2 (Art.90), 3 (Art.64), 4 (Art.9), 5 (Art.4-1, 6-1, 42-1), 6 (Art.63), 11 (Art.1, 13), 13
129 (2019/12/26)	2, 9	2, 9	Y	Y	Jiangsu Society for Environmental Sciences		accepted	N	1 (Art.15-1.6, 65), 3 (Art.142), 5 (Art.64), 11 (Art.1-1, 13), 12 (Art.9), 13
130 (2019/12/26)	2 (fees for off-site alternative restoration included), 6	2-, 6	Y	Y	Chongqing Academy of Environmental Science	Y	accepted	N	1(Art.8), 3(Art.64,142), 5 (Art.42-4, 64),9(Art.9), 11 (Art.2,5,8,13), 12 (Art.22),13, 14
131 (2019/12/26)	1, 2, 6	1', 2-, 6	Y	Y	Chinese Academy of Environmental Planning	Y	accepted	N	1 (Art,66),4 (Art,124), 5 (Art,68),11 (Art,7,8), 12 (Art.1,2,18,20,22,23),13,14
132 (2019/12/26)	2, 6, 7, 8, 12	2-, 6, 7', 11, 12	Y	Y	Chinese Academy of Environmental Planning	/	accepted	N	1 (Art,65,66),3 (Art,55), 5 (Art,1,4,5,58), 12 (Art.1,2,18,20,21,22,23), 13
133 (2019/12/26)	7, 12	7, 12	Y	Y	Shandong Academy of Environmental Science			N	1 (Art.8,65,66), 3 (Art.55), 5 (Art.64), 9 (Art.9, 20, 42), 11 (Art.14), 13
134 (2019/12/26)	9 (includes: 1, 2, 6)	11	Y	Y	Chinese Academy of Environmental Planning, College of Water Science of Beijing Normal University	Y		N	1 (Art.4, 65), 3 (Art. 15, 55), 4 (Art.4, 124), 5 (Art.58), 9 (Art. 17, 35, 76), 11 (Art. 1, 9, 13, 14), 12 (Art.11, 18, 20, 22), 13, 14
135 (2019/12/26)	2, 6	2, 6	Y	Y	Jiangsu Xuhai Environmental Monitoring LTD., Jiangsu Kangda Testing Technology Co., Ltd.	/		Y	1(Art.4, 8, 15, 65), 3(Art. 55), 5 (Art.64), 7 (Art.16, 17, 52, 53, 55, 57, 59, 85, 89), 12(Art.13, 15, 18, 20, 22, 23, 24), 13
136 (2019/12/26)	5, perform statutory supervisory duties	5, perform statutory supervisory duties within three months	Y	Y	Jilin Zhongshi Environmental Protection Group, Jilin Jike Testing Technology Co., Ltd.	/	accepted	N	13, 14
	1	1						N	1(Art. 15, 65, 66), 5(Art. 58)
137 (2019/12/26)	perform statutory supervisory duties within a given period	perform statutory supervisory duties *without* a given period	Y	Y	/	/	accepted	N	13, 14, 15 (Art.26-6, 70, 74-2)
138 (2019/12/26)	5	5	D					Y	9 (Art. 22, 75), 13
	5	5						Y	5 (Art. 7-2), 9 (Art. 8-1, 22-2, 75-2), 13, 16 (Art. 20)
	10	10						N	5 (Art. 7-2), 9 (Art. 8-1, 75-2), 13, 16 (Art.20)
139 (2019/12/26)	5	5	Y	Y	Shanghai city Jinshan District Environmental Monitoring Station		accepted	Y	5 (Art. 10-1), 7 (Art. 68), 8 (Art. 18, 99-2), 13, 15 (Art.69)