Using Environmental Litigation to Advance Ecological Restoration under the Convention on Biological Diversity in China

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Article text

Abstract

In response to unprecedented global biodiversity loss, the obligation of restoration has been integrated into the Convention on Biological Diversity (CBD, or Convention). As a Party to the CBD, China has implemented restoration commitments through the 'National Biodiversity Strategy and Action Plan (2011-2030)'. This article focuses on how such commitments have been translated into the Chinese legal framework and environmental litigation, and how environmental litigation can advance ecological restoration. There exist restoration obligations of governments and individuals. When they fail to fulfil their restoration obligations or cause damage to ecosystems, their wrong actions or inactions can be corrected through restoration orders imposed by Chinese courts, namely primary restoration orders and alternative restoration orders. Also, some weaknesses exist due to relying on forcing defendants to pay to restore damaged ecosystems, including that alternative restoration funds could be misappropriated, and the current legal mechanisms could incentivize a 'license to trash' style culture.

Keywords

Ecological restoration - Convention on Biological Diversity (CBD, or Convention) - Primary Restoration - Alternative Restoration

1 Introduction

Mass extinction is a feature of the Anthropocene, although the potential and gravity of this phenomenon have been discussed and explored for some time. In 2002, Edward Wilson, a well-known conservation ecologist, wrote that 'the normal background extinction rate is about one species per one million species a year. Human activity has increased extinction between 1,000 and 10,000 times over this level in the rainforest [...] We are in the midst of one of the great extinction spasms of geological history [...] 95 percent of all the species that ever lived are

now extinct.¹ In 2019, the first Global Assessment on Biodiversity and Ecosystem Services still referred to the idea that at least one million species of plants and animals were in danger of extinction and would die out 'on our watch'² as we constantly have degraded many ecosystems and ravaged them in the name of 'progress'.³ The past decades has seen substantial improvements in human well-being and economic development, but this has come at the cost of biodiversity loss.⁴ To date, we have failed to strike a balance between human use and long-term conservation of ecosystems.

In an ongoing global diversity crisis, an effective strategy for conserving and restoring biodiversity must be urgently addressed, namely, to increase restoration efforts to halt biodiversity loss. According to the Society for Ecological Restoration (SER), ecological restoration is defined as the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.⁵ Not limited to the implementation of restoration projects, the restoration required by the court of law or statutory authority⁶ can be addressed from an interdisciplinary perspective. As Berry said, ecology is not part of the law, and the law is an extension of ecology.⁷ Law plays a vital role in ecological restoration.⁸ The law can be as an 'intelligent' tool for progressively improving and restoring lost ecological services and functions that have developed in tandem with other human norms and institutions.⁹

Since 1992, the Convention on Biological Diversity (CBD, or Convention) has included and further developed the state-based restoration, including its Convention, Aichi Targets 14 and 15, restoration targets under the Kunming-Montreal Global Biodiversity Framework (GBF), and the most relevant Conference of Parties (COP) decisions. As one of the first Parties to sign and ratify the CBD, China has been actively fulfilling its restoration commitments through implementing restoration projects, and integrating restoration into its legal framework and

¹ Edward O. WILSON, *The Future of Life* (Alfred A. Knopf 2002).

² Robert WATSON et al., Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES Secretariat 2019).

James MASTERSON, 'America in Performance of 20th Century Identity and Individualism in Chrissie Hynde's Reckless' (2022) 11 *European Journal of Life Writing* 41-69.
 WATSON (n 2)

⁴ WATSON (n 2).

⁵ George D GANN et al., 'International Principles and Standards for the Practice of Ecological Restoration' (2019) 27 *Restoration Ecology*.

⁶ Ibid. To some degree, the link between law and ecological restoration can be found from the definition of mandatory restoration. Mandatory restoration means that a restoration required (mandated) by government, court of law, or statutory authority, which may include some types of biodiversity offsets. In some parts of the world, mandatory restoration is included in compensatory mitigation programs.

⁷ Thomas BERRY, *The Great Work: Our Way into the Future* (Bell Tower 2011).

⁸ Anastasia TELESETSKY, 'Ecoscapes: The Future of Place-Based Ecological Restoration Laws' (2012) 14 Vermont Journal of Environmental Law 493-548.

⁹ Anastasia TELESETSKY, An CLIQUET and Afshin AKHTAR-KHAVARI. Ecological Restoration in International Environmental Law (Routledge 2017) 1-15.

environmental litigation. In this article, the study on the implementation of restoration under the CBD in China is as follows. First, this article describes China's implementation of restoration projects through the 'National Biodiversity Strategy and Action Plan (2011-2030)' (NBSAP). Then, this article aims to study how restoration commitments under the CBD have been developed into the Chinese legal framework and environmental litigation¹⁰. It focuses on the governmental and individual restoration obligations separately.¹¹ When the governments and individuals fail to fulfil their restoration obligation or cause damage to ecosystems, the qualified plaintiffs can bring environmental litigations against them for public interest, including environmental public interest litigation (EPIL), and ecological environmental damage compensation (EEDC) litigation. The EPIL includes civil EPIL filed by the procuratorates and qualified non-governmental organizations (NGOs) against individuals, and administrative EPIL filed by the procuratorates against local governments and their departments. Also, qualified local government and authorized departments can file EEDC litigation against individuals. Later, such implementation of restoration under the CBD and Chinese laws raises the question: can the restoration orders imposed by the Chinese courts, namely primary and alternative restoration orders, advance ecological restoration in China? Finally, based on the case-by-case studies, although it is concluded that environmental litigation can be a helpful tool in supporting the restoration commitments adopted by the CBD in China, this article also highlights some significant criticisms. Not all orders in the name of 'restoration' would advance the real ecological restoration. Primary restoration orders, including active restoration measures, may restore damaged ecosystems to their pre-damaged state. Alternative restoration orders may be misappropriated to advance real ecological restoration, if the fee cannot be used to restore the damaged ecosystem. Relying on forcing defendants to pay to restore damaged ecosystems could easily incentivize a 'license to trash' style culture.

2 Restoration under the CBD Framework

The 1992 Biodiversity Convention aims to promote 'conservation, sustainable use and equitable sharing of benefits arising from genetic resources,'¹², and it is the most important international treaty for restoration. Articles 8 and 14 of this Convention specially address restoration. Article 8 focuses on 'in-situ conservation' that includes the restoration of degraded

¹⁰ In this article, the Chinese legal regulation and judgment are originally in Chinese, and their English versions are from <<u>https://www.pkulaw.com/</u>>.

¹¹ In this article, it means individual citizens and companies.

¹² CBD (1992) Article 1.

ecosystems,¹³ and Article 14 calls the restoration a liability for damage to biological diversity.¹⁴ In addition, the Aichi Targets, part of the Strategic Plan for Biodiversity 2011-2020, includes Aichi Targets 14 and 15 related to restoration. Aichi Target 14 aimed to restore essential ecosystem services, while Target 15 called for restoring at least 15 percent of degraded ecosystems.¹⁵ The Kunming-Montreal GBF also includes several ambitious targets that relate to restoration, including Targets 2, 4, 10, and 11.¹⁶

2.1 General Restoration Obligations under the CBD

The first explicit reference to 'restoration' in the Convention is in Article 8.¹⁷ Article 8(f) states that 'each Contracting Party shall, as far as possible and as appropriate to undertake a series of affirmative steps, including to rehabilitate and restore degraded ecosystems and promote the recovery of threatened species [...].' The COP to the CBD has also recognized the importance of restoration and has taken steps to encourage Parties to address this issue. At COP 3 in 1997, Parties were requested to 'take action to achieve the restoration of habitats, including their biological diversity components.'¹⁸ And at COP 12 in 2014, Parties were encouraged to take measures to address 'unsustainable use of biological diversity and revitalize and restore degraded ecosystems.'¹⁹ Under the condition of 'as far as possible and appropriate,' much flexibility is provided for Parties to implement their restoration obligations at the national level.²⁰

Article 14 instructs Parties to 'examine, on the basis of studies to be carried out, the issue of liability and redress, including restoration and compensation, for damage to biological diversity, except where such liability is a purely internal matter.²¹' This suggests that when avoidance of harm is no longer possible, Parties have an obligation to restore the damage that has occurred, as a means of addressing the negative impacts of human activities on biodiversity.²² COP 6 in 2002 considered 'restoration [...] of sites' as one mitigation measure.²³ In addition, COP 6 conducted 'further analysis of pertinent issues relating to liability and redress in the context of

¹³ CBD (n 12) Article 8.

¹⁴ CBD (n 12) Article 14.

¹⁵ CBD (2010) UNEP/CBD/COP/DEC/X/2. The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, Annex, para. 13, Aichi Targets 14 and 15.

¹⁶ CBD (2022) CBD/COP/DEC/15/4. Kunming-Montreal Global Biodiversity Framework. Section H: Global Targets for 2030.

¹⁷ CBD (n 13).

¹⁸ CBD (1997) UNEP/CBD/COP/DEC/III/4. Scientific and Technical Cooperation and the Clearing-house Mechanism.

¹⁹ CBD (2014) UNEP/CBD/COP/DEC/XII/12. Article 8(j) and Related Provisions.

 ²⁰ Federica CITTADINO, Incorporating Indigenous Rights in the International Regime on Biodiversity Protection (Koninklijke Brill NV 2019).
 ²¹ CPD (r. 12) Article 14.

²¹ CBD (n 12) Article 14.

²² Telesetsky, Cliquet and Akhtar-Khavar (n 9) 141-142.

²³ CBD (2002) UNEP/CBD/COP/DEC/VI/7. Identification, Monitoring, Indicators and Assessments.

Article 14 (2) of the CBD and in particular [...] examining the appropriateness of a liability and redress regime under the CBD, as well as exploring issues relating to restoration and compensation.' The CBD Executive Secretary was requested to:

Continue collecting relevant information and conduct an analysis of such information and other relevant issues, with the cooperation of Parties, Governments and relevant organizations. Such information gathering should, where appropriate, focus on [...] national legal and policy frameworks allowing for mutual recognition and enforcement of judgments, access to justice, liability and redress (restitution, restoration, and compensation). They should further analyse the related coverage of existing international regimes regarding damage to biological diversity; activities/situations causing damage, including situations of potential concern and whether they can be effectively addressed by means of a liability and redress regime; and concepts and definitions relevant to paragraph 2 of Article 14.²⁴

Also, COP 8 in 2006 further discussed the application of restoration obligations, focusing on applying restoration as a form of remedial action. It stated:

A 'positive planning approach' should be used, where avoidance has priority and compensation is used as a last resort measure. One should acknowledge that compensation will not always be possible, as there are cases where it is appropriate to reject a development proposal on the grounds of irreversible damage to or irreplaceable loss of biodiversity.²⁵

2.2 Restoration in the CBD Strategic Framework

In response to biodiversity declines and an increasingly well-understood relationship between biodiversity and human well-being,²⁶ the CBD Parties in 2010 adopted the Strategic Plan for Biodiversity 2011-2020, including 20 Aichi Biodiversity Targets. Aichi Targets 14 and 15 were considered an ambitious strategic approach to biodiversity conservation and ecological restoration.²⁷ Some of other Aichi Targets not referring to the word 'restoration' also support restoration, such as Aichi Target 11 that aimed to increase and improve protected areas²⁸.

²⁴ CBD (2002) UNEP/CBD/COP/DEC/VI/11. Liability and Redress (Article 14, paragraph 2).

²⁵ CBD (2006) UNEP/CBD/COP/DEC/VIII/28. Impact Assessment: Voluntary Guidelines on Biodiversity-inclusive Impact Assessment.

 ²⁶ Georgina M. MACE, Ken NORRIS and Alastair H. FITTER, 'Biodiversity and Ecosystem Services: A Multilayered Relationship' (2012) 27 *Trends in Ecology & Evolution* 19-26.
 ²⁷ CRD (2010) UNED/CRD/CCDP/DEC/V/2. The Structure Plan for Biodiversity 2011 2020 and the Aichi Biodiversity 2011 2020.

²⁷ CBD (2010) UNEP/CBD/COP/DEC/X/2, The Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets.

²⁸ Telesetsky, Cliquet and Akhtar-Khavar (n 9) 110-130.

Certain inland and coastal areas may remain a relatively pristine and good condition for area conservation, but additional efforts are still needed to restore fragmented and degraded habitats, and to achieve in particular 'well connected system of protected areas.'²⁹ With the Aichi Biodiversity Targets coming to an end in 2020, international society, as a whole, did not follow through on Targets 14 and 15.³⁰ Among the Parties assessing progress towards their national targets, the proportion of countries with meeting or exceeding on the road to reach Aichi Target 14 was 27% and 3% respectively, while another 61% made progress towards their targets but not at a rate that would enable them to be fulfilled³¹. Also, only about a fifth of national targets were similar to (18%) or exceeded (3%) the scope and ambition level of the Aichi Target 15. Only 6% of these Parties were on track to meet them.³²

As mentioned in part 2.1, Parties need to 'as far as possible and as appropriate' take action to restore the damaged ecosystems, rather than 'shall' or 'must.' Such ambiguous and flexible language to describe restoration obligations impacts the legal weight of the CBD's provisions,³³ which has led to a fragmented legal scenario that weakens the implementation of restoration obligations.³⁴ This, along with inadequate implementation at national levels, has been the main factor in the failure to meet Aichi Targets 14 and 15³⁵.

Parties to the CBD started to work on a new strategic plan for the post-2020 period in 2018³⁶. In response to this well-publicized failure, this framework includes more explicit and ambitious restoration targets. First, under the Kunming-Montreal GBF, Goals A and B both refer to restoration. Goal A aims to substantially increase the area of natural ecosystems by 2050, which will require significant restoration efforts to improve the integrity, connectivity, and resilience of all ecosystems.³⁷ Given nature's important contributions to people, Goal B calls for Parties to restore the biodiversity, including ecosystem functions and services currently in decline, and supporting the achievement of sustainable development for the benefit of present and future

²⁹ Telesetsky, Cliquet and Akhtar-Khavar (n 9) 117.

³⁰ CBD (2019) Global Biodiversity Outlook 5, 31-138.

³¹ Ibid.

³² CBD (n 30) 98-103

³³ Michelle LIM, 'Biodiversity 2050: Can the Convention on Biological Diversity Deliver a World Living in Harmony with Nature?' (2019) 1 *Yearbook of International Environmental Law* 79-101.

³⁴ Teresa Fajardo DEL CASTILLO, 'Principles and Approaches in the Convention on Biological Diversity and Other Biodiversity-Related Conventions in the Post-2020 Scenario.' In Campins Eritja and Teresa Fajardo del Castillo. Ed., *Biological Diversity and International Law* (Springer 2021) 15-34.

³⁵ Haigen XU et al., 'Ensuring Effective Implementation of the Post-2020 Global Biodiversity Targets' (2021) 4 Nature Ecology & Evolution 411-418.

³⁶ Derek P TITTENSOR et al., 'A Mid-Term Analysis of Progress toward International Biodiversity Targets' (2014) 346 Science 241-44.

³⁷ CBD (n 16).

generations by 2050.³⁸ Second, Targets 2, 4, 10, and 11 of the Kunming-Montreal GBF all refer to restoring biodiversity. Except for 15 percent restoration under the Aichi Targets, Target 2 of the proposed Post-2020 GBF called for restoring at least 20 percent of degraded freshwater, marine, and terrestrial ecosystems³⁹. To 'enhance biodiversity and ecosystem functions and services, ecological integrity, and connectivity' by 2030, Target 2 calls to effectively restore 'at least 30 percent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems.⁴⁰ This increasingly quantified restoration reflects a greater ambition of the international community to address the serious global biodiversity crisis through increased restoration efforts. Target 4 calls to 'take urgent management actions [...] for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk,' and 'to maintain and restore the genetic diversity within and between populations of native, wild and domesticated species.^{'41} Target 10 mentions 'restoring biodiversity.^{'42} In addition, Target 11 addresses to 'restore, maintain and enhance nature's contributions to people.'43 Thus, under the Kunming-Montreal GBF, because of the increasing severe biodiversity loss, not limited to 'degraded terrestrial, inland water, and coastal and marine ecosystems,' the CBD Parties are also encouraged to restore 'threatened species,' 'genetic diversity,' and the whole of nature towards meeting their restoration commitments .

Under the Kunming-Montreal GBF, to address the lack of adequate implementation and accountability for the challenge of halting and reversing biodiversity decline⁴⁴, Parties are encouraged to adopt an enhanced multi-dimensional approach to planning, monitoring, reporting, and review.⁴⁵

Planning

Aligned with the Kunming-Montreal GBF and its goals and targets, including those related to means of implementation, Parties are required to revise and update their national biodiversity strategies and action plans (NBSAPs), following their national circumstances.⁴⁶ Also, Parties are encouraged to:

³⁸ Ibid.

³⁹ CBD (2021) CBD/WG2020/3/3. First Draft of the Post-2020 Global Biodiversity Framework.

 $^{^{40}}$ CBD (n 16).

⁴¹ CBD (n 16). ⁴² CBD (n 16).

 $^{^{42}}$ CBD (n 16).

 ⁴³ CBD (n 16).
 ⁴⁴ Castillo (n 34).

⁴⁵ CBD (2022) CBD/COP/DEC/15/6, Mechanisms for planning, monitoring, reporting and review, paragraph 1.

⁴⁶ CBD (n 45) paragraph 5-8.

Adopt the revised or updated NBSAPs as policy and/or legal instruments and to mainstream them (or elements thereof) with broader strategies and plans, such as national sustainable development plans, national development plans, poverty reduction strategies and other relevant national sectoral and cross-sectoral plans, in line with national circumstances and priorities.⁴⁷

Monitoring

Monitoring has been identified as a critical and essential part of restoration efforts to assess progress toward restoration goals and objectives, adapt restoration activities to changing conditions and unforeseen issues, and justify restoration efforts⁴⁸. COP 15 decides to use the available data for the period 2011-2020 as the reference period for reporting and monitoring progress in the implementation of the Kunming-Montreal GBF, and notes that 'baselines, conditions and periods used to express desirable states or levels of ambition in goals and targets should, where relevant, take into account historical trends, current status, future scenarios of biodiversity and available information on the natural state.'⁴⁹ Also, COP 15 provides indicators for monitoring the implementation of the Kunming-Montreal GBF.⁵⁰

Reporting

Parties are required to report on measures taken to implement the provisions of this Convention and their effectiveness in meeting the objectives of this Convention.⁵¹ Reporting refers to how monitoring information is communicated, often across governance scales, and might provide an overview of restoration progress, for instance, at the national and global levels.⁵² Under the Kunming-Montreal GBF, Parties are requested to submit their seventh national report by 28 February 2026 and their eighth national report by 30 June 2029 to enable the preparation of the global reviews.⁵³ They are also encouraged voluntarily to 'collaborate, where appropriate, with other reporting processes, including the Sustainable Development Goals and relevant multilateral environment agreement reporting including by using a modular data reporting tool, such as DART.'⁵⁴

⁴⁷ CBD (n 45) paragraph 9.

⁴⁸ Nina FARWIG, Jörg BENDIX, and Erwin BECK, 'Introduction to the Special Issue "Functional monitoring in megadiverse tropical ecosystems' (2017) 83 *Ecological Indicators* 524-526.

 ⁴⁹ CBD (2022) CBD/COP/DEC/15/5, Monitoring framework for the Kunming-Montreal Global Biodiversity Framework, paragraph 2. Also see: Gann (n 5).
 ⁵⁰ CBD (n 40) Amorg 1.

 ⁵⁰ CBD (n 49) Annex 1.
 ⁵¹ CBD (n 12) Article 26.

 ⁵² Patrick PRINGLE et al., National monitoring, reporting and evaluation of climate change adaptation in Europe (No. 20/2015) (European Environment Agency).

⁵³ CBD (n 45) paragraph 11.

⁵⁴ CBD (n 45) paragraph 12.

Review

The review of the CBD COP focuses on the review of the implementation of the CBD.⁵⁵ The national reports continue to be a core element for reviewing progress in implementation as part of the multi-dimensional review approach, and recognizing that elements of the multi-dimensional review approach under the Convention should be technically sound, objective, transparent, collaborative and constructive and aim to facilitate enhanced efforts by Parties.⁵⁶ Parties 'may take the outcome of the global reviews into account in future revisions and implementation of their NBSAP, including the provision of means of implementation to developing country Parties, with a view to improve actions and efforts, as appropriate.'⁵⁷

3 Implementation of Restoration on the CBD in China

As a Party to the CBD, China can consider fulfilling its restoration commitments in the most effective and possible way according to its specific circumstances. China has made efforts to meet its restoration commitments under the CBD and its Aichi Targets 14 and 15, mainly through developing and implementing national plans. In 1994, the National Environmental Protection Agency (currently upgraded to the Ministry of Environmental Protection) released the Biodiversity Conservation Action Plan⁵⁸, which played a role in conserving and restoring biodiversity. However, this plan did not effectively reverse the overall trend of declining biodiversity in China.⁵⁹

In 2010, the Ministry of Environmental Protection and more than 20 Ministries and Departments updated the NBSAP to address new issues and challenges facing biodiversity conservation effectively. In line with Aichi Targets 14 and 15, China set a national restoration target to restore at least 15 percent of degraded ecosystems by 2020. Although China has adopted national biodiversity targets under its NBSAP, instead of reporting its national biodiversity targets, it chose to report progress using the Aichi Biodiversity Targets as a reference.⁶⁰ According to China's Sixth National Report, it had exceeded Aichi Targets 14 and 15.⁶¹ Up to 2019, China has established an ex-situ conservation system for wildlife and germplasm plant biodiversity resources and a system of protected areas, and has steadily

⁵⁵ CBD (n 12) Article 23(4)(b).

⁵⁶ CBD (n 45).

⁵⁷ CBD (n 45) paragraph 20.

 ⁵⁸ China Biodiversity Conservation Action Plan (1994), Report on 13 January 2008
 https://www.cbd.int/doc/meetings/nbsap/bsapcbw-seasi-01/other/nbsapcbw-seasi-01-cn-en.pdf.
 ⁵⁹ Ministry of Environmental Protection Ching National Piedinary Concernation Strategy and Action Plan (NPSAP)

 ⁵⁹ Ministry of Environmental Protection, *China National Biodiversity Conservation Strategy and Action Plan (NBSAP)* (China Environmental Science Press Beijing, 2011) 4-6.
 ⁶⁰ CBD (2010) China'a Sinth National Parent 44, 54.

⁶⁰ CBD (2019) China's Sixth National Report, 44, 54.

⁶¹ CBD (n 60) 146.

implemented a large number of major ecological conservation and restoration projects, such as natural forest resource protection, returning farmlands to forests and grasslands, forest belt construction, river and lake and wetland's protection, desertification prevention and control, soil and water conservation, rock desertification control, wildlife protection, and nature reserve construction.⁶² Restoration under the Aichi Targets does not refer to a specific type of restoration efforts that discourage biodiversity, such as large-scale tree planting. But according to 'Major Project Construction Plan for Ecological Protection and Restoration Support System (2021-2035)', China still has some shortcomings in meeting the restoration commitments of the Aichi Targets. Ecological protection and restoration management technology and model still is single, and ecological restoration is not systematic and holistic in the past decade. So, since 2022, China has established specific indicators to evaluate the ecological effectiveness of ecological protection and restoration projects to promote biodiversity.⁶³

In addition to implementing restoration projects, China has incorporated restoration into its laws, including governmental restoration obligations and individual restoration obligations. These legal efforts also have contributed to China's progress in meeting its national biodiversity targets and exceeding Aichi Targets 14 and 15.

3.1 Restoration under the NBSAP (2011-2030)

The NBSAP includes three Goals, ten Priority Areas, thirty Priority Actions, and thirty-nine Priority Projects for biodiversity conservation, some of which directly mention restoration. This document sets out the Short-, Medium- and Long-term Goals separately:

By 2015, China committed to effectively controlling the downward trend in critical areas, By 2020, efforts were made to control the loss and erosion of biodiversity essentially; and By 2030, practical measures will be in place to protect biodiversity.

⁶² CBD (n 60) 136-137.

⁶³ China (2022) Technical guideline for performance assessment of ecological conservation and restoration (on trial). This document includes ten specific indicators include: (1) Area of important ecosystems (Area growth of forests, shrubs, grasslands, wetlands, farmland (non-ecological land conversion), typical marine ecosystems, etc. in the assessment area; (2) Ecological connectivity Assess (the improvement of the overall connectivity of the ecosystem in the area); (3) Retention rate of natural coastlines (Assess the improvement of the retention rate of natural coastlines in the area); (4) Vegetation coverage (The increase in the average vegetation coverage during the growing season in areas with vegetation coverage in the assessment area); (5) Environmental quality (Assess the improvement of biodiversity in the area); (7) Leading ecological functions (Assess the improvement of leading ecological functions such as water conservation, soil conservation, windbreak and sand fixation, carbon sequestration, and coastal protection in the area); (8) Human threats (the improvement of human threats in the assessment area); (9) Public Satisfaction (public satisfaction in the assessment area); area); and (10) Characteristic indicators (Other representative indicators with regional characteristics).

Under Short-term Goal, by 2015, China aimed to 'maintain the total area of the territorial nature reserve at around 15% of its total land area, with strengthened in-situ conservation to conserve 90% of the national key protected species and typical ecosystems.⁶⁴ Restoration measures have been taken to improve the biodiversity condition within the national key protected species and typical ecosystems. In the Medium- and Long-term Goals, restoration is seen as a practical measure for controlling the loss and erosion of biodiversity, for example, contributing to reaching 'the required level' of 'the number and area of nature reserves of all levels' and effectively protecting 'ecosystems, species, and genetic diversity.⁶⁵

Following these three Goals and further promoting mainstreaming of biodiversity conservation into a related planning process,⁶⁶ ten Priority Areas and thirty Priority Actions have been identified, some of which specially mention restoration (Table 1).⁶⁷ Under Priority Area 2, Action 6 focuses on 'restoring soil and land contaminated in the past by mining and other industrial enterprises.'⁶⁸ Priority Area 4 includes Action 13 which establishes demonstration areas of biodiversity restoration and conservation,⁶⁹ and Action 15 which aims to 'restore damaged or degraded fish spawning sites in rivers' and 'strengthen the conservation and restoration of typical coastal and marine ecosystems of mangrove forests, coral reefs, and seagrass beds'.⁷⁰ Under Priority Area 5, Action 19 attempts to 'improve reintroduction of artificial populations and restoration of wild populations.'⁷¹ By 2019, Actions 6 and 19 have made some progress, and Actions 13 and 15 have made significant progress.⁷²

Thirty-nine Priority Projects are part of China's efforts to conserve and restore biodiversity (Table 2)⁷³. Some of them specially mention restoration. Priority Project 5 considers restoration in 'designing biodiversity conservation planning and demonstration project in land use.'⁷⁴ Priority Project 14 focuses on 'wetland restoration.'⁷⁵ Project 20 encourages 'to develop a national plan for mangrove forest conservation and artificial restoration and implement ecological restoration programs for seriously degraded mangrove forest ecosystems.'⁷⁶ Project

65 Ibid.

- ⁶⁷ NBSAP (n 59) 22.
 ⁶⁸ NBSAP (n 50) 25.
- ⁶⁸ NBSAP (n 59) 25.
 ⁶⁹ NBSAP (n 50) 27.2
- ⁶⁹ NBSAP (n 59) 27-28.
 ⁷⁰ NBSAP (n 50) 28 20.
- ⁷⁰ NBSAP (n 59) 28-29.
 ⁷¹ NBSAP (n 59) 31.
- ⁷² CBD (n 60) 44-54.
- ⁷³ NBSAP (n 59) 39-50.
- ⁷⁴ NBSAP (n 59) 40.
- ⁷⁵ NBSAP (n 59) 43.

⁶⁴ NBSAP (n 59) 10.

⁶⁶ NBSAP (n 59) 11.

⁷⁶ NBSAP (n 59) 44-45.

22 implements 'nature reserve establishment and ecological restoration in typical desert ecosystems.'⁷⁷

1	Area 2 Planning	Action 6 Reduce impacts of environmental pollution on biodiversity	Speed up wastewater treatment and waste disposal in villages and towns, by [] restoring soil and land contaminated in the past by mining and other industrial enterprises.
2	Area 4 In-situ conservation	Action 13 Improve conservation in priority areas of biodiversity conservation	Strengthen supervision and establish demonstration areas of biodiversity restoration and conservation.
		Action 15 Improve biodiversity conservation outside nature reserves	Take both engineering and ecological measures to restore damaged or degraded fish spawning sites in rivers and the ecological connection of fish in rivers and lakes;
			Strengthen the conservation and restoration of typical coastal and marine ecosystems of mangrove forest, coral reefs and sea grass bed and improve the ecological system of off-shore and coastal areas.
3	Area 5 Ex-situ conservation	Action 19 Improve reintroduction of artificial populations and restoration of wild populations	Develop technologies for breeding, restoration and conservation of endangered species []

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Table 1	Priority Areas	ana Actions	airectiy	mentioning	restoration

Table 2 Priority Projects directly mentioning restoration

1	Project 5 Biodiversity conservation planning and demonstration project in land use	Take into full consideration needs [] in designing projects for land reclamation, restoration and development.		
2	Project 14 Demonstration projects on wetland conservation and restoration and establishment of a system for monitoring major wetlands	Select different types of wetlands in major regions for demonstration projects in conservation, restoration and sustainable use of wetlands; Develop models of wetland conservation, restoration and sustainable use.		
3	Project 20 Mangrove Forest ecosystem restoration	Develop a national plan for mangrove forest conservation and artificial restoration and implement ecological restoration programs for seriously degraded mangrove forest ecosystems; Study and develop technologies for restoration and reconstruction of the mangrove forest ecosystem to curb their degradation trend and to enhance their restoration.		

⁷⁷ NBSAP (n 59) 45.

4	Project 21 Demonstration projects in restoration and control of typical degraded ecosystems in coal mining zones	Study and propose techniques and models for the ecological restoration and control of coal mining areas; Improve the ecological restoration of degraded ecosystems in coal mining areas.
5	Project 22 Nature reserve establishment and ecological restoration in typical desert ecosystems	Implement ecological restoration projects.

Though China has been heavily influenced by existing international biodiversity legislation, especially the CBD, the NBSAP's implementation could have been more effective. Because some of the identified Priority Actions under China's domestic conservation strategy, such as Priority Action 13 (establishing demonstration areas for biodiversity restoration), lack clear implementation guidance. Also, in addition to the Ministry of Ecology and Environment's report, there is no other regional governments' official report related to the implementation progress of Aichi Targets 14 and 15. A report from Hong Kong Bird Watching Association said that Aichi Target 14 in Hong Kong was not reached, and Aichi Target 15 was partially achieved.⁷⁸ According to some ecological literature, degraded regions needing restoration projects.⁷⁹ Even in well-restored regions, the implementation of restoration projects may be ineffective, consuming more manpower and financial resource without producing proportionate outcomes.⁸⁰ Thus, even if the intention of ecological restoration is good, and the restoration projects for further restoration work shall also be necessary.⁸¹

3.2 Restoration under the Chinese Legal Framework

3.2.1 The Chinese Governmental Restoration Obligation

China has applied legal knowledge to address the biodiversity issue through the inclusion of provisions on restoration liability for ecological and environmental damage, although it does not have a uniform restoration law.⁸² And there are various scattered legal provisions related

⁷⁸ EARTH.ORG, Hong Kong Failed to Meet 14 Out of 20 Aichi Biodiversity Targets. 21 October 2021 <<u>https://earth.org/hong-kong-failed-to-meet-14-out-of-20-aichi-biodiversity-targets/</u>.

⁷⁹ Haiwei ZHAO et al., 'The Contrasting East–west Pattern of Vegetation Restoration under the Large-scale Ecological Restoration Programmes in Southwest China' (2020) 13 *Land Degradation & Development* 1688-1698.

⁸⁰ Myles HM MENZ, Kingsley W. DIXON and Richard J. HOBBS, 'Hurdles and Opportunities for Landscape-scale Restoration' (2013) 6119 Science 526-527.

⁸¹ Christine Jane TRAC et al., 'Reforestation Programs in Southwest China: Reported Success, Observed Failure, and the Reasons Why' (2007) 4 *Journal of Mountain Science* 275-292.

⁸² China (2021) Civil Code, Article 1234.

to restoration. Article 9 of China's Constitution states that 'the state ensures the rational use of natural resources and protects rare animals and plants. Appropriation or damage to natural resources by any organization or individual by whatever means is prohibited.'⁸³ It emphasizes that conserving and protecting biodiversity is the state's obligation. Besides, it mentions that 'any organization or individual' shall not appropriate or damage the natural resources. Article 26 further emphasizes the importance of protecting and improving the environment and the ecological system, through 'preventing and controlling pollution and other public hazards.'⁸⁴ Article 10 of this law also requires 'organizations and individuals' to use land with its rational use.'⁸⁵

When China recognized the need to address the challenges arising from the increasingly inappropriate use of natural resources and the biodiversity crisis, it amended the Environmental Protection Law (EPL) in 2014. The EPL includes provisions related to the conservation and restoration of biodiversity. Article 30 states 'exploitation and utilization of natural resources shall be developed in a rational way that conserves biological diversity and safeguards ecological security.'⁸⁶ It also mentioned that restoration programs shall be developed by-laws and be implemented.⁸⁷ Also, Article 32 refers to 'the state [...] establish and improve the corresponding system of investigation, monitoring, assessment and restoration.'⁸⁸ These two provisions, together with those in Articles 9, 10, and 26 of the Constitution, highlight the restoration obligation of China's governments at all levels and their departments. Article 46 of the Forestry law also requires governments at all levels to adopt artificial restoration measures⁸⁹, and scientifically protect and restore forest ecosystems.⁹⁰

Another example refers to the Yangtze River Protection Law. Article 56 of the Yangtze River Protection Law indicates the importance of cooperation between governments at different levels and related Departments of the State Council in restoring the damaged Yangtze River ecosystem ⁹¹, namely a central-local coordination mechanism. The central coordination mechanism assumes the function of integrated basin management, where the Yangtze River

⁸³ China (2018) Constitution, Article 9.

⁸⁴ Constitution (n 83) Article 26. Also see: Canfa WANG, 'Chinese Environmental Law Enforcement: Current Deficiencies and Suggested Reforms.' (2006) 8 Vermont Journal of Environmental Law 159.

⁸⁵ Constitution (n 83) Article 10.

⁸⁶ China (2014) Environmental Protection Law, Article 30.

⁸⁷ Ibid.

⁸⁸ EPL (n 86) Article 32.

Artificial restoration of the forest ecosystem refers to the restoration of vegetation on natural factors-induced deserted and damaged mountains, degraded woodlands, and barren hills, land, and beaches fit for forests.
 China (2010) Forestry Law, Article 46

⁹⁰ China (2019) Forestry Law, Article 46.

⁹¹ China (2021) Yangtze River Protection Law, Articles 4, 6 and 56.

Water Resources Commission of the Ministry of Water Resources and other basin management agencies, which are dispatched by the Ministry of Water Resources and other departments of the State Council, still exercise their basin management functions within the scope of laws and regulations and the relevant departments of the State Council delegated or entrusted to them, which are the specific coordination of the Yangtze River basin management matters.⁹² Although water is the core element that defines the basin space, the land is the essence of the basin scope.⁹³ The administrative area is a specific territorial unit for political control and social management based on land, with relatively stable geographical boundaries and rigid legal constraints.⁹⁴ Therefore, local governments at all levels are the primary management subjects of the Yangtze River Basin. When establishing the monitoring mechanism during and after ecological restoration projects, the Ministry of Water Resources and other relevant departments of the State Council, as well as the local governments in the regions where the estuary of the Yangtze River is located, are responsible for monitoring the Yangtze River ecosystem, including through 'the comprehensive monitoring of waters, sand, salt, tidal flats, and biological populations.⁹⁵ If the Yangtze River ecosystem deteriorates, these administrative authorities are required to 'take effective measures to prevent seawater intrusion and backflow, and maintain the good ecological functions.⁹⁶ The Yangtze River basin spans 19 provinces and municipalities with diverse natural, economic and social conditions⁹⁷, which exists a contradiction between restoring the integrity of the ecosystem and promoting regional development. Relevant administrative authorities need to consider local conditions when restoring the Yangtze River.

3.2.2 Individual Restoration Obligations

When individuals cause damage to a certain ecosystem, they shall restore it. For instance, when a landowner can cut down trees⁹⁸ from their private property⁹⁹, they may be in breach if they

96 Ibid.

⁹² Qiu QIU, 'Multi-level Basin Coordination: Innovation of Basin Management System of Yangtze River Protection Law' (多重流域统筹协调:《长江保护法》的流域管理体制创新) (2021) 49 Environmental Protection (环境保护) 30-35. 93

Jiaqi LIU, 'Study on the legislative allocation of intergovernmental authority for Yangtze River Basin' (论长江流域政 府间事权的立法配置) (2019) 29(10) China Population, Resources and Environment (中国人口·资源与环境) 24-29. 94

Ibid.

⁹⁵ Yangtze River Protection Law (n 91), Article 60.

⁹⁷ Zeqian ZHANG et al., 'Microplastic Pollution in the Yangtze River Basin: Heterogeneity of Abundances and Characteristics in Different Environments' (2021) Environmental Pollution 287.

China 'Regulation on the Implementation of the Forestry Law of the People's Republic of China' (2018) Article 30. 98 When applying for a forest felling permit, individual shall not only submit the ownership certificate or use right certificate for the forest to be felled, but also submit other certification documents according to the following provisions: [...] (3) An individual shall also submit documents which describe the location, area, tree species, number of trees, stock volume and reforestation time. So, in this case, the landowner can cut how many trees, depending on the submitted and approved application documents to apply for harvest permit.

⁹⁹ Forestry Law (n 90) Article 57(3).

have not acquired the required permit from the forestry department of the people's government at the county level or the township people's government. Their wrong actions can be corrected by administrative orders, such as replanting trees or paying a fine¹⁰⁰. The natural resources department and forestry department of the people's government at or above the county level can also file environmental litigation to correct such wrongdoing and require the responsible party to restore the ecosystem.¹⁰¹ In People v. Qin Jiaxue ¹⁰², the defendant was ordered to perform vegetation restoration after cutting down a large amount of public welfare forest in the core area of Baiyunshan National Nature Reserve without permission.

4 Implementation of Restoration Obligations through Environmental Litigation in China

Environmental litigation can be a valuable tool for plaintiffs to seek relief when the other legal remedy is unavailable or incomplete¹⁰³. When an individual tortfeasor violates the laws and intentionally causes environmental damage that results in serious consequences, the individual victim has the right to use for corresponding punitive compensation to safeguard private interests.¹⁰⁴ However, Chinese courts are still reluctant to allow them to sue other individuals or administrative agencies for environmental damage on behalf of the public interest. In practice, attempts by individuals to bring environmental litigation for public interest began as early as the 2000s, but most have been dismissed by the courts for lack of standing to sue. For instance, in 2005, professor Wang and his colleagues and several students from Peking University unsuccessfully filed environmental litigation against the Jilin branch of Sinopec over the pollution of the Songhua River.¹⁰⁵ Currently, individuals can only indirectly enter into EPIL by providing information about violations of the environmental public interest to eligible plaintiffs and asking them to file environmental litigation.¹⁰⁶

Chinese NGOs can bring civil EPIL against individuals who cause environmental damage, and they must meet certain requirements, including (1) being registered with the civil affairs

¹⁰⁰ Ibid, Article 76. Without such harvest permit, the landowner shall 'replant trees of not less than one time nor more than three times the trees removed in the deforestation in the original or another place within the specified period,' or 'may pay a fine of not less than three times nor more than five times the value of the trees so removed.'

¹⁰¹ Ibid, Article 68.

¹⁰² People v. Qin Jiaxue (秦家学滥伐林木案) (2018).

 ¹⁰³ Yun MA, 'Vindicating Environmental Public Interests in China: A Balanced Approach to Institutional Interaction in Public Interest Litigation System' (2019) 4 (21) *Environmental Law Review* 269-291.
 ¹⁰⁴ Civil Code (n 22) Article 1222

¹⁰⁴ Civil Code (n 82). Article 1232.

¹⁰⁵ Alex WANG, 'The role of law in environmental protection in China: recent developments' (2006) *Vermont Journal of Environmental Law* 195-223.

¹⁰⁶ Xi WANG, and Chujia ZHANG, 'Thought of the Improvement in China's Environmental Public Interests Litigation System' (完善我国环境公益诉讼制度的思考) (2016) 38(3) Academic Journal of Zhongzhou 49-54.

authorities at the prefectural level or above, following the law, and (2) being engaged in public interest activities for environmental protection for at least five years without interruption and without violating the law.¹⁰⁷ Although NGOs are empowered to exercise supervisory functions on public interest issues, they are restricted in their choice of avenues of participation in environmental governance.¹⁰⁸ They are not allowed to bring administrative EPIL against administrative authorities. Only public prosecutors are allowed to bring administrative EPIL. If NGOs have a direct interest in the administrative action in question, they can only file normal administrative litigations¹⁰⁹ with no direct public environmental interest.

To force the defendant to assume the obligation of restoration, since 2015, the qualified NGOs can file civil EPIL, the procuratorate can file civil and administrative EPIL, and local government and authorized departments can file EEDC litigation. (Table 3)

	Civil EPIL filed by NGOs	Civil EPIL filed by the procuratorate	Administrative EPIL filed by the procuratorate	EEDC litigation
Plaintiff	Environmental NGO	The procuratorate	The procuratorate	Local government and authorized departments
Defendant	Individuals	Individuals	Local government and its departments	Individuals
Implementation since	January 2015	July 2015 (pilot), July 2017 (national)	July 2015 (pilot), July 2017 (national)	December 2015 (pilot), January 2018 (national)

 Table 3 Summary of Environmental Litigations

In 2016, the court explained why the defendant was required to restore the damaged ecological environment in Taizhou Environment Federation v. Taixing Jinhui Industrial Co. Ltd. It mentioned:

Although rivers have a certain self-purification capacity, the total environmental capacity is limited. Dumping large amounts of acid by-products will inevitably cause serious damage to the water quality, aquatic life, riverbed, river bank, and the ecology and the environment downstream. Without immediate remediation, the pollution will accumulate to a level that exceeds the environmental capacity and eventually result in irreversible

¹⁰⁷ EPL (n 86) Article 58.

¹⁰⁸ Lei XIE and Lu XU, 'Environmental public interest litigation in China: A critical examination' (2021) 10(3) *Transnational Environmental Law* 441-465.

¹⁰⁹ China (2017) Administrative Litigation Law, Article 12.

damage. Therefore, the defendants' liabilities cannot be relieved just because the water body's segment where the waste acid was dumped has been restored.¹¹⁰

4.1 Application of the CBD in Environmental Litigation

Although Chinese legal scholars do not agree with the 'monism', they admit that the two can be transformed into each other under certain conditions.¹¹¹ International law does not uniformly regulate how it is implemented domestically. For example, under the Vienna Convention on the Law of Treaties (Vienna Convention), a reservation made by a country constitutes a limited international obligation for the State.¹¹² However, the obligation of a state to a particular treaty provision may depend on its interpretation of that provision.¹¹³ Although none of China's successive Constitutions stipulates the role of international law or international treaties or international customs, some important laws and judicial interpretations provide for this. China respects and abides by the rules of international customary law formed in the framework of international environmental and protection laws in recent years. In particular, the application can be guided by relevant provisions in the judicial interpretations of China's Supreme People's Court (SPC). In 2015, the SPC mentioned:

The people's courts shall [...] accurately apply international treaties and practices in cases to which such international treaties and practices should apply according to the law [...] in strict accordance with the Vienna Convention on the Law of Treaty and general definitions of terms of treaties, make bona fide interpretation on the basis of their contexts and by reference to the purposes and objectives of such treaties.¹¹⁴

In 2019, the SPC stated that 'the people's courts shall actively apply international conventions applicable to China', ¹¹⁵ which can be understood as China's commitment to performing international treaties in good faith.¹¹⁶ However, this judicial interpretation does not specify how international treaties should be interpreted 'actively' following the Vienna Convention, nor does it explain how international legal knowledge can be applied in China's environmental litigation.

¹¹⁰ Taizhou Environment Federation v. Taixing Jinhui Industrial Co., Ltd. (江苏省泰州市环保联合会诉泰兴锦汇化工有限公司) (2016).

¹¹¹ Guoqiang LUO, 'Issues on the domestic application of international treaties' (论国际条约的国内适用问题) (2010) (6) *Lanzhou Academic Journal (兰州学刊)* 123-125.

¹¹² Vienna Convention (1969) Article 20(1) and (2).

¹¹³ Waliul HASANAT, 'Definitional Constraints Regarding Soft Law' (2007) AALCO Quarterly Bulletin 8-32.

¹¹⁴ China (2015) Several Opinions of the Supreme People's Court on Providing Judicial Services and Safeguards for the Construction of the Belt and Road, Article 7.

¹¹⁵ China (2019) Opinions of the Supreme People's Court on Further Providing Judicial Services and Guarantees by the People's Courts for the Belt and Road Initiative, Article 18.

¹¹⁶ Vienna Convention (n 112) Article 26.

An example is the Tengger Desert case, in which the Green Development Foundation sued as a qualified social organization 'specializing in environmental protection public interest activities.' The SPC cited the CBD's term 'biological diversity' to explain the concept of protecting public interest of the environment. It mentioned:

Protecting biodiversity is an essential part of environmental protection and a necessary part of protecting the public interest of the environment. The CBD, signed by China in 1992, states that 'biological diversity' means the variability among living organisms from all sources, including, among other things, terrestrial, marine, and different aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.¹¹⁷

4.2 Using the Environmental Litigation to Restore Ecosystems

4.2.1 Civil EPIL filed by Non-Governmental Organizations (NGOs)

In the 2014 Nanping case, Friends of Nature and Fujian Green Home jointly filed civil EPIL against four individual defendants, seeking clean-up and restoration of an illegal mining site¹¹⁸. The Nanping Intermediate Court ordered the defendants to restore the damaged spot to its original state by replanting trees, or pay \$1.1 million of restoration costs if restoration was not carried out. If the latter option were chosen, the government would appoint a qualified organization to carry out the restoration work in place of the defendant using the paid restoration cost.

In addition to restoring the damaged ecosystems, defendants may be required to compensate for the loss of services and functions from suffering damage to completing the ecological restoration. For example, in the Nanping case, the court ordered the defendants to pay \$1.27million in compensation for temporary ecological losses during the restoration period. In another case filed by All-China Environment Federation (ACEF) related to water pollution, the court ordered the defendant to:

Immediately stop the illegal transfer and disposal of hazardous waste and apologize to the public [...] to bear the costs of environmental restoration and compensate for the loss of

¹¹⁷ Biodiversity Conservation and Green Development Foundation v. Ningxia Ruitai Science and Technology Co., Ltd., et al. (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等) (2016).

¹¹⁸ Friends of Nature & Fujian Green Home v. Xie Zhijin and other three persons (自然之友和福建绿家园诉谢某某等人) (2015).

service functions from the time the damage was suffered to the time of ecological restoration.¹¹⁹

4.2.2 EPIL Filed by Procuratorates

In China, the procuratorate is responsible for supervising the performance of government organs and their personnel, as well as the behaviour of individual citizens and social organizations.¹²⁰ One way in which the procuratorate exercises its role as a legal supervisor is by initiating civil and administrative EPIL. It can file civil EPIL to prevent individual acts harming the ecological environment and administrative EPIL to stop the wrong actions or inactions of government restoration duties.

4.2.2.1 Civil EPIL Filed by Procuratorates

According to Article 103 of the Criminal Procedure Law, if state property or collective property has suffered any loss, the procuratorate may institute an incidental civil action along with a public prosecution.¹²¹ This means that if a criminal case is being pursued, the procuratorate can also file civil EPIL to seek compensation for any losses that have been incurred. In cases where NGO does not file civil EPIL, the procuratorate can initiate litigation after undergoing a 30-day pre-trial notification procedure. If a qualified NGO files litigation, the procuratorate may support the filing of litigation.¹²² An example is the Intermediate People's Court of Xuzhou City v. Suzhou Qi'an Arts & Crafts Co., Ltd., in which the defendants were found to have committed an environmental pollution crime. After the local procuratorate discovered the defendants' illegal actions in dumping 3 barrels of sulfuric acid waste liquid and damaging the ecosystem, it announced the relevant information and prepared to file the litigation. No legally required NGO filed civil EPIL during the announcement period, so the procuratorate filed a case in May 2018, and the court ordered the defendant to jointly reimburse ¥204,415 of restoration costs into the particular fund account.¹²³

In civil EPIL filed by procuratorates, the court may also issue various restoration orders, depending on the case's specific circumstances. In the 2019 People's Procuratorate of Tongren

¹¹⁹ All-China Environment Federation (ACEF) v. Yichun Zhonggan Industry Co. et al. (中华环保联合会诉宜春市中安实 业有限公司等水污染公益诉讼案) (2018).

¹²⁰ Constitution (n 83) Article 134, Organic Law of the People's Procuratorates (2018) Article 2(1), EPL (n 86) Article 58, Civil Procedure Law (2021) Article 58(2), and Administrative Litigation Law (n 109) Article 25 (4).

¹²¹ China (2018) Criminal Procedure Law, Article 103.

¹²² Civil Procedure Law (n 120).

People's Procuratorate of Xuzhou City, Jiangsu Province v. Suzhou Qi'an Arts & Crafts Co., Ltd. (江苏省徐州市人民 检察院诉苏州其安工艺品有限公司) (2020). Also see: People v. Qin Jiaxue (n 102).

City v. Guizhou Yuping Xiangsheng Chemicals Co., Ltd. (Tongren City case), the court ordered the defendants to:

Restore the soil involved and if they failed to do so within a prescribed time limit, they should pay 2.3 million yuan for restoration and invite a third party to restore the soil involved; and they should pay 1.2719 million yuan for loss of ecological environment service functions during the period and bear the identification fee of 386,000 yuan.¹²⁴

4.2.2.2 Administrative EPIL Filed by Procuratorates

Governments at all levels need to fulfil their obligations to protect and restore biodiversity and consider their actions' potential impacts on ecosystems and local communities. In cases where local governments are unwilling or unable to address ecological damage adequately, the procuratorate can file administrative EPIL to successfully assist in conserving and restoring the damaged ecosystem.¹²⁵ Procuratorates are not required to consider whether any NGO is interested in filing administrative EPIL. But they must submit a pre-trial inspection notice to the administrative authorities, urging them to fulfil their duties.¹²⁶ At present, most administrative EPIL filed by procuratorates have led to the local governments correcting wrong actions, thereby safeguarding the public interest.¹²⁷

In the 2017 Dayin Town case, the People's Procuratorate of Jinsha County filed administrative EPIL against the Dayin Town People Government of Bijie City for improper performance of duties. Since 2010, the defendant has collected solid household waste from Dayin Town and neighbouring villages and hired a dedicated person to transport and dump it near Yangqiao village in this town. And a large amount of garbage was stacked in the open air, releasing unpleasant gases, seriously endangering the local ecological environment, and affecting the local lives. The court affirmed that Dayin Town's landfill was illegal and ordered it to take corrective action to restore the damaged ecosystem.¹²⁸

¹²⁴ People's Procuratorate of Tongren City v. Guizhou Yuping Xiangsheng Chemicals Co., Ltd. and Guangdong Shaoguan Woxin Trading Co., Ltd. (铜仁市人民检察院诉贵州玉屏湘盛化工有限公司、广东韶关沃鑫贸易有限公司土壤污 染责任民事公益诉讼案) (2019).

¹²⁵ Qian SUN and Jack TUHOLSKE, 'An Exploration of and Reflection on China's System of Environmental Public Interest Litigation' (2017) 47 Environmental Law Reporter News & Analysis 10497-10510.

¹²⁶ Administrative Litigation Law (n 109) Article 25.

¹²⁷ Sun and Tuholske (n 125).

¹²⁸ The People's Procuratorate of Jinsha County v. Dayin Town Government of Qixingguan District, Bijie City (金沙县人 民检察院诉大银镇人民政府不当履职案) (2017).

4.2.3 Ecological Environment Damage Compensation (EEDC) Litigation Filed by Governments

EEDC litigation is a legal mechanism in China that allows the governments to file litigation against individuals who cause damage to the ecological environment. The plaintiff in EEDC litigation must be a government at the provincial or prefecture city level, a relevant department or institution designated by it, or the department authorized by the State Council to exercise ownership of all-natural resource assets of the whole Chinese people.¹²⁹ They can seek various forms of relief, such as orders requiring the defendants to take corrective actions to remedy the harm caused by their actions or to pay restoration fee.

In the 2017 Chongqing case, the Chongqing Municipal People's Government had the authority to file EEDC litigation based on the '2015 Plan for the Pilot Reform of the Ecological Environment Damage Compensation System'¹³⁰. The court said that defendants collectively reimbursed \$14.416776 million for environmental restoration costs, which were delivered to the special account of Chongqing Municipal Finance Bureau, within ten days of the entry into force of this judgment.

In the Li Chengdong case, the defendant hired someone to renovate his house and plant vegetables to drive an excavator to destroy a forest and cultivated land. Still, he did not obtain a permit to claim and occupy forest land, causing severe damage to forestry resources and its forestry ecological service and functions. Although the defendant voluntarily paid \$5,000 and replanted saplings in the damaged forest area, he was nevertheless ordered by the local court to pay \$89,976.09 for ecological service and functions during ecological restoration.¹³¹

5 Discussion

China is an active participant in the implementation of restoration under the CBD. It has initiated regional ecological restoration projects covering terrestrial, aquatic and marine ecosystems. These projects have contributed significantly to greening the world, accounting

¹²⁹ China (2017) Plan for the Reform of the System of Damages for Harm to Ecology and Environment, Title IV Project Contents.

¹³⁰ People's Government of Chongqing Municipality and Chongqing Liangjiang Voluntary Service Center v. Chongqing Cangjin'ge Property Management Co., Ltd. and Chongqing Shouxu Environmental Protection Technology Co., Ltd. (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) (2017). Also, '2015 Plan for the Pilot Reform of the Ecological Environment Damage Compensation System' was replaced by 'Plan for the Reform of the System of Damages for Harm to Ecology and Environment' in 2018.

¹³¹ Chongqing Nanchuan Forestry Bureau v. Li Chengdong for EEDC litigation (重庆市南川区林业局诉李成冬生态环境 损害赔偿纠纷案) (2020).

for a 25% growth in global leaf area with only 6.6% of global vegetated acreage¹³². As mentioned in the previous study, EPIL and EEDC litigation are legal mechanisms that allow the procuratorate, the qualified NGO, and the government to file litigation against the defendant in the face of the damaged ecological environment. The courts in China can issue restoration orders in these situations, requiring the defendants to restore the damaged ecosystem. The next continues to analyse how the restoration orders can force governments and individuals to advance ecological restoration.

5.1 Two Different Restoration Orders Imposed by Chinese Courts

There are two orders of restoring a damaged ecosystem through environmental litigation: (1) 'restoring the ecological environment to the state and functions before the damage occurs,' and (2) 'paying the expenses for restoring the ecological environment.'¹³³ The government usually is ordered to choose the first method in fulfilling the obligation of restoration. In contrast, the individual is applied to the first and second methods to do restoration. The specific restoration order taken will depend on the extent of the ecological damage and the ability of the defendants to carry out the restoration themselves. If ecological environment to a healthy state directly. However, where the damage is more severe, it may be more appropriate for the defendants to pay for the restoration to be carried out by the relevant government department or a professional restoration company.

First, 'restoring the ecological environment to the state and functions before the damage occurs' is named as 'primary restoration.' It is a legal remedy that requires the defendants to take the necessary and reasonable measures to restore the damaged ecosystem and its ecosystem services to the pre-injured condition within a reasonable period, if possible. This order applies to civil and administrative EPIL, and EEDC litigation. In the Nanping case, the defendants' illegal mining activities caused ecological destruction and harmed the public interest, so the court ruled that the priority restoration method was replanting and conserving the forest for three years. Also, the Tongren Case required the defendant to give priority to the restoration of the soil involved; in the Li Chengdong case, the defendant shall replant saplings in the damaged

¹³² Chi CHEN et al., 'China and India Lead in Greening of the World Through Land-use Management' (2019) 2 Nature Sustainability 122-129.

¹³³ China (2020) Interpretation of the Supreme People's Court on Several Issues concerning the Application of Law in the Conduct of Environmental Civil Public Interest Litigations, Article 20 (1) and (2).

forest area; and in the Dayin Town case, the defendant was ordered to take active restoration measures to correct its landfill wrongdoing.

In China, many kinds of restorative measures that are taken to restore a damaged ecosystem to the pre-injured condition depend on the specific case, and may include replanting and regreening, patrolling and managing mountains, increasing and releasing water, reclaiming land, restoring soil, and purifying waters.¹³⁴ However, no published literature objectively measures the effectiveness of such restoration orders in restoring damaged ecosystems to their previous state. The positive effect of such restoration orders on advancing ecological restoration can be observed in the implementation progress in specific cases. In the Tongren case, in 2018, except for fully fulfilling its obligations to remove solid pollutant disposal and restore the contaminated land, the defendant built a local centralized waste collection and treatment mechanism to avoid continuous damage to the surrounding environment.

Second, 'paying the expenses for restoring the ecological environment' is called alternative restoration (or compensatory restoration). Alternative restoration requires the defendants to take necessary and reasonable financial measures to restore a damaged ecosystem. Paying a restoration fee covers the cost of restoration after ecological restoration has been completed or a specific plan for ecological restoration has been determined, including the cost of preparing, implementing, monitoring, and supervising the restoration plan¹³⁵. This restoration order applies to situations where the defendant either 'fails to perform the restoration obligation' within a reasonable period or directly 'assumes the expenses for restoring the ecological environment.'¹³⁶ The second restoration order applies to both civil EPIL and EEDC litigation. Not all defendants can restore the damaged ecosystem independently due to a lack of technical expertise or other limitations. Under the alternative restoration, the administrative organization authorized by law can carry out restoration work or entrust another agency, such as a professional restoration company¹³⁷. In these cases, the defendants are still the obligors and pay for the restoration work, even though someone else is performing the work. And the state-specified agency or the entrusted organization plays the role of a substitute performance

¹³⁴ Yunbao LIANG, 'The Criminal Law Positioning of 'Restoration of Ecological Environment' under the Green Principle of Civil Code' (民法典绿色原则视域下 '修复生态环境' 的刑法定位) (2020) 6 Criminal Science (中国刑事法杂志) 20-38.

¹³⁵ China (2015) Interpretation on Several Issues Regarding the Application of Law in Public Interest Environmental Civil Litigation, Article 20.

¹³⁶ Ibid.

¹³⁷ Xianting LI and Huiting HU, 'The dilemma of ecological restoration in the Yangtze River basin and its response' (长江 流域生态环境修复的困境与应对) (2022) 1 Journal of Nanjing University of Technology (Social Science Edition) (南 京工业大学学报(社会科学版)) 76-86.

responsible person¹³⁸. For example, in the Nanping case, if restoration was not carried out, the defendant shall pay ¥1.1 million in restoration costs as an alternative way to fulfil restoration obligations.

In cases where a damaged ecological environment is located within the atmosphere, water, and other environmental media with self-purifying functions, and in-situ restoration is not possible or necessary¹³⁹, the courts may order the defendants to take alternative restoration to address the damage caused by their actions. Although such damaged ecosystems often occur in densely populated areas, the scaling of damaged ecosystem based on these losses often occurs in remote areas where land costs are low.¹⁴⁰ In such a situation, the court may order defendants to pay restoration fee, or do other work, such as labour remuneration, and engaging in environmental publicity and education.¹⁴¹

5.2 How to Choose Between These Two Restoration Obligations?

When an ecosystem has been damaged, it is important to actively restore it to the greatest extent, even if complete restoration sometimes is not possible. In other words, the primary restoration measures take place not only on the situation that can be restored entirely but also on the part of the ecological environment function that can be restored in the case of an incomplete restoration. For the parts of incomplete restoration, it is possible to address this gap through alternative restoration.¹⁴² The court can apply both of these restoration obligations in the same case, which means that the two restoration orders are not mutually exclusive. When the damaged ecosystem cannot be completely restored, the court may impose direct ecological restoration for the parts that can be restored. For the parts that cannot be restored, the court may consider alternative restoration or, depending on the circumstances, require direct compensation for permanent damage.¹⁴³

¹³⁸ Weixuan LUO, 'Ecological Damage Restoration Mechanism from the Perspective of Coordinating Public Law and Private Law—Taking Article 1234 of the Civil Code as a Starting Point' (公私法协动视角下的生态损害修复制度-—以《民法典》 第 1234 条为切入) (2021) 7 Dispute Settlement (争议解决) 145-152.

¹³⁹ China (2017) Working Rules of the Supreme People's Court on the Trial of Environmental Public Interest Lawsuits (for Trial Implementation), Article 33.

¹⁴⁰ Todd BENDOR, 'A dynamic analysis of the wetland mitigation process and its effects on no net loss policy' (2009) (1-2) Landscape and urban planning 17-27. 141

China (n 135).

¹⁴² Xiaogang WANG, 'Explanation of the Cost of Restoration of the Ecological Environment in Article 1235 of the Civil Code: Application of Restoration Costs, Period Losses and Permanent Damages'(〈民法典〉第 1235 条的生态环境 恢复成本理论阐释 - 兼论修复费用、期间损失和永久性损失赔偿责任的适用)(2021) 1 Journal of Gansu University of Political Science and Law (甘肃政法大学学报) 1-7.

¹⁴³ Ibid.

5.3 The Possible Reform for Legal Mechanisms about Primary and Alternative Restoration Orders

While courts have imposed restoration orders on governments and individuals, this part still raises a question: can these orders be used to advance real ecological restoration? In general, the effectiveness of court restoration orders will depend on the specific measures included in the order and how they are implemented. According to SER's definition, the real restoration should happen through small- or large-scale restoration projects, such as restoring a prairie pothole by an individual farmer or the Chinese National Wetland Conservation Program.¹⁴⁴ The benefits of large-scale projects may be more prominent. Still, smaller restoration projects can also be essential for some ecosystems.¹⁴⁵ This definition about real definition can also be confirmed under China's judicial interpretation in 2020: 'restoration should be implemented through the means of restoring the damaged to the pre-damaged state and function, which can be read as the means of implementing ecological restoration projects¹⁴⁶.' As mentioned in the discussion of primary restoration and alternative restoration, not all restoration orders named 'restoration' would advance ecological restoration. The primary restoration orders imposed by Chinese courts may contribute to advancing real ecological restoration, as they include active restoration measures to bring the damaged ecosystem to a healthy state, such as replanting. Whether the alternative restoration orders can contribute to real ecological restoration depends on the practical application of the restoration fee. Not all financial orders imposed by China's courts with the word 'restoration' would contribute to biodiversity. These real restoration orders shall be not just symbolic or punitive, but they involve using financial restoration fees awarded by the courts to fund restoration projects that actively restore the damaged ecosystem in-situ or off-situ site, which can be interpreted as a real restoration. If the restoration fee is misused, such as using it to build a golf park instead of restoring the damaged forest, it will not contribute to real ecological restoration.

In some cases, a court may order the defendants to pay money for 'direct compensation for permanent damage,' also known as complementary restoration. This is a way to compensate for the temporary ecological losses of ecosystem services or functions during the restoration period. When primary restoration cannot fully restore the damaged ecosystem and its services, or alternative restoration cannot fully compensate for damage during the restoration period, the

¹⁴⁴ Delta Waterfowl Adopt-A-Pothole Program 2007 <<u>http://www.deltawaterfowl.org/programs/adopt.html></u>.

¹⁴⁵ Royal C. GARDNER, 'Rehabilitating Nature: A Comparative Review of Legal Mechanisms That Encourage Wetland Restoration Efforts' (2002) 52 *Catholic University Law Review* 573.

¹⁴⁶ China (n 133).

courts can impose compensatory orders. Such as, in the Nanping case and the Li Chengdong case, the defendants still were ordered to pay for compensating ecological service functions during ecological restoration, although they already took some active restoration actions or paid the restoration fee.

But the courts have awarded more financial damages as compensation for environmental damage, which can be simpler to enforce compared to the complex technical expertise of ecological restoration.¹⁴⁷ There exist several drawbacks to relying solely on financial compensation. One issue is that financial compensation is usually paid after the damage has already occurred and may be difficult or impossible to reverse fully, which differs from covering ecological restoration costs. In the case of financial compensation, a specific procedure is used to determine a compensation amount to replace the restoration liability before ecological restoration has been carried out or a specific plan for ecological restoration has been determined¹⁴⁸. It is often used to compensate local people for temporary ecological losses rather than to restore the damaged ecosystem or ecological environment. Another issue is that financial compensation may be insufficient to cover the full restoration cost, even if the restoration plan has yet to be determined or the damages are extensive. The funds may not be used for the intended purpose of ecological restoration, or may not be used effectively to achieve the desired results. This can cause problems with the use and supervision of the funds, and may leave the defendant unable to bear the full restoration cost, potentially transferring the financial risk to the public¹⁴⁹. Even more severe environmental pollution occurs after the end of compensation. For example, in the Chongqing case, the defendant may be left insolvent due to its inability to bear more than ¥10 million in ecological losses calculated before implementing restoration work, which made ecological restoration impossible. The final issue is that relying solely on financial compensation can create incentives for defendants to avoid taking more costly and effective restoration measures, and may be seen as financial compensation as a 'license to trash' at the expense of conserving what we still have in nature. Thus, it is essential for the courts to consider the costs and benefits of different restoration

¹⁴⁷ Yu CHENG, 'Normative Construction of the Administrative Order System of Ecological Environment Restoration' (生态环境修复行政命令制度的规范建构) (2021) 23(6) *Journal of Beijing Institute of Technology (Social Science Edition)* (北京理工大学学报(社会科学版)) 130-139.

¹⁴⁸ Changbiao YANG, 'Rethinking and Reconstructing: An Analysis of the Enforcement Mechanism of Ecological Damage Litigation' (反思与重构: 生态环境损害诉讼的裁判执行机制探析) (2022) 1 *Qinghai Social Scienne* (*青海社会科学*) 155-163.

¹⁴⁹ Ibid.

measures and find the best balance between compensating and restoring the damaged ecosystem.

6 Conclusion

Ecological restoration is used to mitigate the impacts of biodiversity loss and promoting biodiversity conservation and sustainable use. As the host country of COP 15 to the CBD, China has made significant progress in ecological restoration, through state-based restoration projects, legal regulations on restoration obligations of the governments and individuals, and restoration orders imposed by courts. Though these restoration projects play the most prominent role in promoting ecological restoration under the CBD in China, environmental litigation can be a helpful tool to address legal challenges caused by governments and individuals, enforce the related Chinese laws, and protect biodiversity. Even if some legal mechanisms exist for primary restoration and alternative restoration, there is potential for reform and a risk that defendants may 'pay' for the compensation to damage the ecosystem, which does not advance biodiversity.

In addition to the existing legal mechanisms, many factors can affect the success of restoration efforts, including the specific ecosystem being restored, the damage degree that has occurred, and the available resources for restoration. And there are no guarantees of success, and restoration efforts may only be visible after several decades have passed.

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