



Winter 2020

**The Reform of the Compensation System for Ecological and Environmental Damage in China: Natural Resources, Environmental Enforcement, and Legislation**

Weiyu Wu

**Recommended Citation**

Weiyu Wu, *The Reform of the Compensation System for Ecological and Environmental Damage in China: Natural Resources, Environmental Enforcement, and Legislation*, 60 NAT. RES. J. 63 (2020).  
Available at: <https://digitalrepository.unm.edu/nrj/vol60/iss1/5>

This Article is brought to you for free and open access by the Law Journals at UNM Digital Repository. It has been accepted for inclusion in Natural Resources Journal by an authorized editor of UNM Digital Repository. For more information, please contact [disc@unm.edu](mailto:disc@unm.edu).

---

# The Reform of the Compensation System for Ecological and Environmental Damage in China: Natural Resources, Environmental Enforcement, and Legislation

Erratum

Article updated November 19, 2020

Weiyu Wu\*

**THE REFORM OF THE COMPENSATION SYSTEM  
FOR ECOLOGICAL AND ENVIRONMENTAL  
DAMAGE IN CHINA: NATURAL RESOURCES,  
ENVIRONMENTAL ENFORCEMENT, AND  
LEGISLATION**

**ABSTRACT**

*The establishment of the Compensation System for Ecological and Environmental Damage promises to be a milestone development in China's environmental regulations. Historically, China has used two main legal tools—direct regulation and public interest litigation—to cope with the ecological and environmental damage under its current environmental laws and management systems, but they are unable to effectively break the paradox of “polluted by the enterprises, suffered by the public, paid by the government.” China's new Compensation System for Ecological and Environmental Damage is becoming a feasible method to comprehensively remedy China's damaged environment by imposing negotiation and litigation against liable parties that engage in environmental pollution and ecological destruction. This article examines the new system's theoretical basis, framework, specific designs, and relationships with other existing systems. Additionally, this article provides an empirical overview of China's Ecological and Environmental Damage reform practice, including its features of non-retrospective liability, high compensation, and insufficient legal support.*

*Given the law's current reform status, this article introduces two main pathways to address the problems facing authorities and liable parties. It then demonstrates that future steps for devising the new system should rely on systematic legislation derived from four core aspects: the legislative framework & primary principles, liability mechanisms, dispute settlements, and fund management.*

---

\* Assistant Professor of Law at Shanghai University of Political Science and Law, Ph.D.(Fudan University).

## INTRODUCTION

The Compensation System for Ecological and Environmental Damage (abbreviation: EED Compensation System)<sup>1</sup> is a crucial institutional innovation in China's current attempts to alleviate deterioration of the domestic ecological environment and remedy existing environmental harms. It is also the key implementation content of the "Ecological Civilization"<sup>2</sup> and the "Belt and Road"<sup>3</sup> strategies. The system has been fully tried in China and will be completely established by the end of 2020.<sup>4</sup> In contrast to the new system that China is building, in the 1980s, the U.S. Congress first launched Natural Resource Damages system (NRD) in response to the increasingly severe domestic environmental crises and health risks, especially the property contaminated by hazardous wastes and oil spills, bypassing the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The two systems are now showing great institutional similarities and convergence at different epochs and territories. The goal of this article is to provide a holistic view of China's new environmental governance system, which is similar to the NRD, and may have positive influences on the improvement of the above-mentioned systems in the United States.

To date, the ecological and environmental damages (EED), which are still occurring or have not been addressed, have become an unavoidable environmental issue facing China. The EED Compensation System is aimed at addressing the issues of environmental pollution and ecological destruction, and restoring the damaged ecological environment; issues the government has been incapable of effectively addressing due to some long-standing abuse of the existing regimes and systems.<sup>5</sup>

1. The "Compensation" here in China is broadly explained, including compensation for the injured ecological environment, natural resource, and those response actions, like removal actions and remedial actions.

2. See Shengtai Wenming Tizhi Gaige Zongti Fang'an (生态文明体制改革总体方案) [Integrated Reform Plan for Promoting Ecological Progress], XINHUA NEWS AGENCY (Sept. 22, 2015), [http://english.www.gov.cn/policies/latest\\_releases/2015/09/22/content\\_281475195492066.html](http://english.www.gov.cn/policies/latest_releases/2015/09/22/content_281475195492066.html).

Ecological civilization is the final goal of social and environmental reform within a given society. It implies that the changes required in response to global climate disruption and social injustices are so extensive as to represent another form of human civilization, one based on ecological principles. Broadly construed, ecological civilization involves a synthesis of economic, educational, political, agricultural, and other societal reforms toward sustainability. Zhihe Wang, Huili He & Meijun Fan, *The Ecological Civilization Debate in China: The Role of Ecological Marxism and Constructive Postmodernism—Beyond the Predicament of Legislation*, 66 MONTHLY. REV. 37, 37 (2014).

3. "The Initiative of Jointly Building the Silk Road Economic Belt and the 21st-Century Maritime Silk Road (hereinafter referred to as the Belt and Road) aims to promote economic prosperity of countries along the routes and regional economic cooperation, strengthen exchange and mutual learning among different civilizations, and contribute to world peace and development." See Yidai Yilu Shengtai Huanjing Baohu Hezuo Guihua ("一带一路"生态环境保护合作规划) [The Belt and Road Ecological and Environmental Cooperation Plan], MINISTRY OF ECOLOGY AND ENVIRONMENT (May 2017), <https://www.yidaiyilu.gov.cn/zchj/qwfb/13383.htm>.

4. See Reform Plan, *infra* note 72, part I-2.

5. See Shengtai Sunhai Peichang Zhidu Gaige Shidian Fang'an (生态环境损害赔偿制度改革试点方案) [Pilot Plan for Reform of the Ecological Environment Damage Compensation System] (promulgated by St. Council, Dec. 3, 2015), <http://en.pkulaw.cn/display.aspx?cgid=dedfdf963550c154bdfb&lib=law> (last visited Feb. 14, 2019) [hereinafter Pilot Plan].

Thus, after a brief introduction to the background of the evolution of environmental regulations in China, part II then analyses two of the most critical existing environmental regulation means—direct regulation / public interest litigation, and their failures in dealing with the EED. Part III then focuses on discussing the establishment of the EED Compensation System and its reform in China for addressing the above-mentioned failures. Finally, based on the author’s experience in drafting China’s EED Compensation Law, part IV provides legislative suggestions for the future construction of the EED Compensation System covering the legislative framework and principles, liability mechanisms, dispute settlements, and fund managements. Adopting a pattern of systematic and specialized legislation is the optimal option for China.

### I. THE EVOLUTION OF CHINA’S ENVIRONMENTAL REGULATION

Ancient Chinese tradition has always attached importance to the relationship between humans and nature. Many unique environmental protection theories have been formed and applied to govern the country since ancient time, such as “Heaven and Man Are United as One,”<sup>6</sup> “Dao Operates Naturally,”<sup>7</sup> and “Equality of all things.” Those ecological concepts convey the profound meaning that harming nature is harming human beings themselves. Under the influence of these traditional ideas, and in order to balance the contradiction between human production and limited resources, the Dynasties have more or less promulgated legal institutions<sup>8</sup> to control environmental problems including the utilization and conservation of natural resources, which to a certain extent, have reflected the concerns and responses of the rulers at that time. Although farming civilizations of China have adapted across the centuries,<sup>9</sup> the contradictory nature of “utilization and conservation of natural resources” in different eras has not changed fundamentally on a global scale.<sup>10</sup> The

---

6. The term represents a world outlook and a way of thinking which hold that heaven and earth and man are interconnected. This world outlook emphasizes the integration and inherent relationship between heaven, earth, and man. It highlights the fundamental significance of nature to man or human affairs, and describes the endeavor made by man to pursue life, order, and values through interaction with nature. See JIXI PEI ET AL., KEY CONCEPTS IN CHINESE THOUGHT AND CULTURE 106 (vol. 2 2016).

7. Dao operates in accordance with natural conditions of all things. “Natural” means the natural state of things. Dao creates and nurtures everything, yet it does not command anything. In political philosophy, the relationship between Dao and natural things implies that between the ruler and the people. The rulers should follow the natural requirements of Dao, which places limits on their power, and govern by means of non-interference to allow the people and affairs to take their own natural course.

8. The Western Xia Dynasty is especially worthy of attention. For example, as recorded in “*The Lüshi Chunqiu*” (an encyclopedic Chinese classic text compiled around 239 BC), the Zhou Dynasty (1046 BC-771 BC, Western Zhou) promulgated two laws to protect natural resources, “*The Wild Ban*” and “*The Four Season Ban*.” See Zhang Mang (张莽), Tianren Heyi: Gudai Huanjing Baohu Fa de Hexin (天人合一: 古代环境保护法的核心) [*Heaven and Man: The Core of Ancient Environmental Protection Law*], Renming Fayuan Bao (人民法院报) [PEOPLE’S COURT DAILY], Apr. 14, 2017, at 6.

9. There is a view that the present moment can be called “hyper-industrial.” See Pierre Veltz, *Hyper-industrial Society and its Territories*, FUTURIBLES INT’L, Jan. 20, 2019, <https://www.futuribles.com/en/revue/409/la-societe-hyperindustrielle-et-ses-territoires/>.

10. The root of this problem lies in the finiteness of many natural resources and the growing world population. A typical example is about the deep seabed mining, and it is seen by some to be an engine for economic development in marine time sector. The emerging deep seabed mining industry will result in biodiversity loss in the deep seabed, while many countries around the world, such as the U.S., China,

rapid development of industrial society and economic globalization has increasingly exacerbated this problem as well. From the late Qing Dynasty (1840-1912)<sup>11</sup> to the founding of the People's Republic of China (1949- ), driven by years of internal and external wars and economic interests, China was taken away from considering the issues of natural resources and eco-environment, let alone genuinely enforcing environmental protection.<sup>12</sup> Before the middle to late 20th century, environmental protection issues did not attach much importance in China, at least not as a priority. Until the first United Nations Conference on the Human Environment<sup>13</sup> was held, continuous pollution incidents<sup>14</sup> in China aroused the concern of the government and the public. The State Council began to recognize the seriousness and extent of environmental problems. In order to reverse the trend of environmental degradation including water quality deterioration, soil erosion, and deforestation, the State Council has adopted multiple measures and achieved some specific results. These measures include formulating national policies, setting up specialized environmental protection agencies, improving legislation, increasing capital investment, strengthening pollution prevention, and administrative law enforcement.<sup>15</sup>

---

Japan, U.K., Belgium, German, are still moving fast on the exploration and exploitation in deep seabed minerals. See C. L. Van Dover et al., *Biodiversity Loss From Deep-Sea Mining*, 10 NATURE GEOSCIENCE 464, 464-465 (2017).

11. The Qing Dynasty, officially the Great Qing, was the last imperial dynasty of China. The last seventy-some years of the Qing Dynasty, simply put, is a story of decline. The period opened with the First Opium War (1839-1842), a milestone of the dynastic decline. In 1912 the Qing Dynasty was finally replaced by a Republic. However, almost immediately the country broke became fragmented under rival warlords, and a complex series of wars took place as they jostled for power. See DAVID PONG, *The Fall of the Qing 1840-1912*, in OXFORD BIBLIOGRAPHIES CHINESE STUDIES, (Tim Wright ed., 2013).

12. Especially after the People's Republic of China was founded in the ruins of war, the crying demand to improve social productivity and achieve modernization is an urgent task faced by the ruling government; meanwhile, the rapid economic development and large-scale industrialization have made China too busy to take environmental protection into account and brought unprecedented challenges to China's natural resources and environmental protection as well. For example, in 1958 a new policy, labeled the Great Leap Forward, was enacted by the central government, aiming to speed up China's advance to great industrial power within a short time through unreasonable methods; in the event, it created chaos and heavy environmental pollution. For example, the number of industrial enterprises jumped from 170,000 in 1957 to more than 600,000 in 1959. However, most of them are small enterprises with backward technology and dense pollution, which makes the industrial structure present the trend of the heavy chemical industry with dense pollution. See Zhang Lianhui (张连辉), *Xin Zhongguo Huanjing Baohu Shiye de Zaoqi Tansuo (新中国环境保护事业的早期探索——第一次全国环保会议前中国政府的环保努力)* [*New China's Early Exploration of Environment Protection -- The Chinese Government's Efforts for Environmental Protection before the First National Environmental Protection Conference*], *Dangdai Zhongguo Shi Yanjiu (当代中国史研究)* [CONTEMP. CHINA HIST. STUD.], no. 4, 2010, at 40, 43.

13. U.N. Conference on Human Environment, U.N. Doc. A/CONF.48/14/REV.1 (June 1972).

14. For example, six beach farms in Dalian Bay were closed due to land pollution sources, and similar situations were found in Bohai Bay, Shanghai Port and Nanjing Port. Many food and beverages were seriously harmed by the abuse of chemical additives, and Guanting Reservoir was polluted, threatening the safety of drinking water in Beijing. See QU GEPING (曲格平) & PENG JINXIN (彭近新), *Huanjing Juexing (环境觉醒)* [ENVIRONMENTAL AWAKENING], 152 (2010).

15. See *id.*

Nonetheless, China's entrance into the world economy<sup>16</sup> has introduced a market mechanism to release its economic vitality and to participate in the wave of economic globalization. In the meantime, the pressure of environmental governance brought about by the industrialization, urbanization and other processes of decades was growing and continuously approaching the ecological carrying capacity.<sup>17</sup> Moreover, China implements a state ownership system for natural resources.<sup>18</sup> Articles 9-10 of the Chinese Constitution stipulate that "natural resources belong to the state"<sup>19</sup> and those important strategic natural resources are developed and utilized uniformly by state-owned enterprises. In some areas, however, private entities can obtain the resource use rights and carry out development and utilization activities by applying for the administrative license and paying a "small" amount of fees to the government.<sup>20</sup> Since these private entities are non-owners and the actual value of natural resources is not reflected in this method, those use right holders of natural resources did not truly cherish and efficiently use the finite natural resources, and environmental degradation and destructive development of natural resources frequently occurred under the above resource management system. Regrettably, the current legal system cannot effectively fulfill the "polluter responsibility" principle,

16. Mainly refers to the implementation of economic reform and opening-up in the 1980s and China's entry into WTO in 2001.

17. Over the past decades, "China has adhered to an economic model characterized by high levels of pollution, emissions and power consumption, combined with low levels of efficiency." "Remote-sensing surveys show that China's cultivated land area plummeted between 1988 and 2000, from 1,307,400 square kilometres in 1991 to 1,282,400 square kilometres in 2000 – from 1.8 mu (0.0012 square kilometres) per head to 1.5 mu (0.0010 square kilometres) per head. Construction accounted for 56.6% of the decrease, 21% of land was forested, 16% was flooded and 4% became grassland." Jiang Gaoming, *The terrible cost of China's growth (part one)*, CHINADIALOGUE, (Dec. 1, 2007), <https://www.chinadialogue.net/article/show/single/en/684-The-terrible-cost-of-China-s-growth-part-one>.

18. See Xian Fa (宪法) [Constitution] (amended 2018) (China).

19. According to the Constitution, the National People's Congress is the nominal owner of natural resources. The relevant laws stipulate that the State Council exercises the ownership of natural resources on behalf of the state, including Property Law and other natural resources legislation. In practice, the ownership may actually be exercised by specific departments of the State Council or local people's governments. See Xian Fa (宪法) [Constitution] art. 9-10 (amended 2018) (China); Wuquan Fa (物权法) [Property Law] (promulgated by the Standing Comm. Nat'l People's Cong., Mar. 16, 2007, effective Oct. 1, 2007) 2007 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.; Kuangchan Ziyuan Fa (矿产资源法) [Mineral Resources Law] (promulgated by the Standing Comm. Nat'l People's Cong., Mar. 19, 1986, effective Aug. 27, 2009) 1986 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.; Tudi Guanli Fa (土地管理法) [Land Management Law] (promulgated by the Standing Comm. Nat'l People's Cong., June 25, 1986, effective Aug. 28, 2004) 1986 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.; Shui Fa (水法) [Water Law] (promulgated by the Standing Comm. Nat'l People's Cong., Jan. 21, 1988, effective July 2, 2016) 1988 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.; Caoyuan Fa (草原法) [Grassland Law] (promulgated by the Standing Comm. Nat'l People's Cong., June. 18, 1985, effective June 29, 2013) 1985 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.; Haidao Baohu Fa (海岛保护法) [Island Protection Law] (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 26, 2009, effective Mar. 1, 2010) 2009 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ..

20. China implements a system of paid acquisition of the mining right. The fee for the advancement use of the mining right shall be paid annually at an annual price of RMB1,000 per sq km of the area to be mined. See Kuangchan Ziyuan Kaicai Dengji Guanli Banfa (矿产资源开采登记管理办法) [Procedures for Administration of Registration of Mining of Mineral Resources] (promulgated by the St. Council, Feb. 12, 1998, effective July 29, 2014) CLI.2.231656(EN) (Lawinfochina).

remedy the damaged eco-environment, and ultimately turn the governments into the actual sponsor to undertake the clean-up and remedial work. For those reasons, in addition to continuously improving the domestic environmental rule of law institutions, China has been pursuing the strategic reform of “ecological civilization” over the past decade.<sup>21</sup> President Xi Jinping of China regards building an ecological civilization as a basic plan for the sustainable development of the Chinese nation, and has stated that the country needs “to explore a new way of high-quality development oriented by ecological priority and green development to ensure harmony between humankind and nature.”<sup>22</sup> Based on the aboved situation, the establishment of EED Compensation System with a reform cycle of 5 years (2016-2020), is one of China’s essential plans to address the imminent problems of ecological environment and natural resources damage.

## II. TWO EXISTING GOVERNANCE STRATEGIES FOR REMEDIATING THE EED

In the past forty years, China has made fruitful efforts in environmental protection.<sup>23</sup> These achievements are reflected in legislation, law enforcement, judicial protection, and compliance.<sup>24</sup> It can be said that since the economic reform

21. The Central Committee of the Communist of China (CPC) and the Central Government have promulgated several policy documents to forward the construction of the “ecological civilization.” See e.g. Zai ZHONGGUO GONGCHAN DAN DI SHIBA CI QUANGUO DAIBIAO DAHUI SHANG DE BAOGAO (在中国共产党第十八次全国代表大会上的报告) [REPORT TO THE EIGHTEENTH NATIONAL CONGRESS OF THE COMMUNIST PARTY OF CHINA ON NOV 8, 2012], at Part VII, [http://www.gov.cn/ldhd/2012-11/17/content\\_2268826.htm](http://www.gov.cn/ldhd/2012-11/17/content_2268826.htm) (last visited by Sep. 14, 2019); Zhonggong Zhongyang Guowu Yuan Guanyu Jiakuai Tuijin Shengtai Wenming Jianshe De Yijian (中共中央、国务院关于加快推进生态文明建设的意见) [Opinions of the CPC Central Committee and the State Council on Accelerating the Ecological Civilization Construction] (promulgated by St. Council, Apr. 25, 2015) CLI.5.247761(EN) (Lawinfochina); Xinhua Wang (新华网), *Integrated Reform Plan for Promoting Ecological Progress*, XINHUA NEWS AGENCY, Sep. 12, 2015, [http://www.xinhuanet.com/politics/2015-05/05/c\\_1115187518.htm](http://www.xinhuanet.com/politics/2015-05/05/c_1115187518.htm); (2015); *Supra* note 2; XIANFA, *supra* note 18, at art. 89.

22. PARTY DOCUMENTS RESEARCH OFFICE OF THE CPC CENTRAL COMMITTEE, XI JINGPING’S DISCOURSE ON THE CONSTRUCTION SOCIALISM ECOLOGICAL CIVILIZATION (2017).

23. See Gaige Kaifang 40 Nian Jingji Shehui Fazhan Chengjiu Xilie Baogao Zhi Shiba (改革开放40年经济社会发展成就系列报告之十八) [No. 18 Report on Economic and Social Development Achievements in 40 Years of Reform and Opening-up], GUOJIA TONGJI JU (国家统计局) [NATIONAL BUREAU OF STATISTICS] (Sept. 17, 2019), [http://www.stats.gov.cn/tjsj/zxfb/201809/t20180917\\_1623289.html](http://www.stats.gov.cn/tjsj/zxfb/201809/t20180917_1623289.html).

24. Taking legislative work as an example, in addition to the Constitution, China has successively enacted more than 30 environmental-relevant laws. See Huanjing Baohu Fa (环境保护法) [Environmental Protection Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Dec. 26, 1989, effective Apr. 24, 2014) 1989 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ. [hereinafter 2014 EPL]; Kongqi Wuran Fangzhi Fa (大气污染防治法) [Atmospheric Pollution Prevention and Control Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Sep. 5, 1987, effective Oct. 26, 2018) 1987 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.; Huanjing Yingxiang Pingjia Fa (环境影响评价法) [Law on Environmental Impact Assessment] (promulgated by the Standing Comm. Nat’l People’s Cong., Oct. 28, 2002, effective Dec. 29, 2018) 2002 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.; Xunhuan Jingji Cujin Fa (循环经济促进法) [Circular Economy Promotion Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Aug. 29, 2008, effective Oct. 26, 2018) 2008 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.;

The number has exceeded 1/10 of the total amount of legislation formulated by the National People’s Congress and its Standing Committee. As to the regulations, the environmental protection departments

and opening up, China has experienced a long process of development from less to more environmental legislation, from weak to vigorous environmental law enforcement, from negative to positive environmental justice, and from passive to active environmental compliance.<sup>25</sup> However, given the increasing downward pressure on the economy in recent years, the tension between economic development and environmental protection has become more prominent, and even aggravated environmental pollution and ecological destruction in China.<sup>26</sup> China has two main legal tools to address the problem of EED<sup>27</sup> under its current environmental laws and management systems.

### A. The Traditional Tool: Administrative Enforcement of Environmental Law

China's environmental legislation, which is governed by the Environmental Protection Law, stipulates that local people's governments of all levels are responsible for environmental quality within their respective administrative areas, and are authorized with corresponding supervision powers and enforcement measures.<sup>28</sup> As illustrated in Figure 1, the authorities in China basically follow an order-based administrative mode with command-and-control regulation at its core. As a prevailing mode in the world, command-and-control regulation severely cracks down on violators and deters potential delinquents through prohibitive or restrictive norms and standards, environmental licensing, supervision, and inspection with the administrative penalties as backing, so as to achieve the function of general prevention.<sup>29</sup>

---

under the State Council has formulated more than 130 administrative regulations on environmental protection, such as the Regulations on Nature Reserves, the Regulations on wild plants protection and has formulated nearly 2000 national environmental standards. In addition, the number of local environmental protection legislation is astonishing as well, mainly to implement the tasks set by the Lex superior, but some of them have shown advancements, such as enacting the regulations on climate change and biodiversity conservation in the absence of laws. For more information about China's legal structures see *Introduction to China's Legal System*, LIBRARY OF CONGRESS, <https://www.loc.gov/law/help/legal-research-guide/china.php> (last visited Feb. 26, 2019).

25. Mehran Idris Khan & Yen-Chiang Chang, *Environmental Challenges and Current Practices in China—A Thorough Analysis*, 10 SUSTAINABILITY, July 2018, at 1, 9-13; See sources cited *supra* notes 22 & 23.

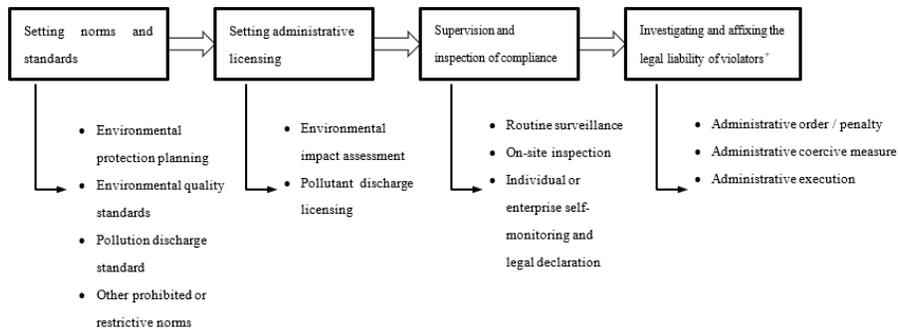
26. Shi'san Wu Shengtai Huanjing Baohu Guihua (“十三五”生态环境保护规划) [The 13th Five-Year Plan for the Protection of Ecological Environment] (promulgated by the St. Council, Nov. 24, 2016), [http://www.gov.cn/zhengce/content/2016-12/05/content\\_5143290.htm](http://www.gov.cn/zhengce/content/2016-12/05/content_5143290.htm) (last visited Feb. 26, 2019).

27. According to the “Reform Plan of the Ecological Environment Damage Compensation System”, Ecological and Environmental Damage refers to the unfavorable changes of environmental elements such as air, surface water, groundwater, soil and forest, and biological elements such as plants, animals and microbes, as well as the functional degeneration of ecosystem, caused by the environmental pollution and ecological damage. See Reform Plan, *infra* note 721, at parta. III8. Chinese academia also defines it as the “damage to the environment itself.” See Lv Zhongmei (吕忠梅), *Shengtai Huanjing Sunhai Peichang de Falv Bianxi* (“生态环境损害赔偿”的法律辨析) [Legal analysis of the “Ecological Environmental Damage Compensation”], 32 FAXUE LUNTAN (法学论坛) [LEGAL F.] 5, 5-13 (2017). Hou Jiaru (侯佳儒), *Shengtai Huanjing Sunhai de Peichang, Zhuanyi yu Yufang* (生态环境损害的赔偿、移转与预防:从私法到公法) [Restoration, Prevention & Compensation Transfer of Ecological Environment Damage in China: From Civil Law to Public Law], 32 FAXUE LUNTAN (法学论坛) [LEGAL F.] 22, 22-27 (2017).

28. See *infra* note 32; 2014 EPL, *supra* note 23, at art. 6, 10.

29. It aims to prevent the occurrence of environmental damage rather than to restore or alleviate the damaged environment and ecology.

Figure 1: The basic model of environmental administrative law enforcement in China



\* According to the provisions of the Chinese Administrative Law, the environmental administrative authority can investigate and affix the legal liability of environmental violators if the violators are found liable. The authorities can issue administrative orders (行政命令)/administrative penalties (行政处罚) and administrative compulsion (行政强制). There are three types of environmental administrative penalties: (1) admonition penalties, such as a warning; (2) monetary penalties, such as imposing continuous fines calculated on a daily basis; and (3) re-install equipment, cease, desist and close penalties, such as an order to restrict production or suspend business, suspend/revoke administrative license.<sup>30</sup>

Furthermore, as a theoretical classification, the authorities can also issue administrative orders like an order to decontaminate, which have deadlines for treatment, either included with or separately from the administrative penalty. When violators fail to comply with the previous administrative penalty, the authorities can issue administrative compulsion<sup>31</sup> in the following ways. First, administrative coercive measures (行政强制措施) are more severe and can be issued to force the violators to comply. This can include sealing up and detaining the facilities and equipment or administrative detention. Second, the authorities can also step in to execute an administrative order/penalty directly and claim for the compensation later. These are also known as the administrative substitutive performance, one type of the administrative execution (行政强制执行).

30. Zhang Zitai (张梓太), *Huanjing Falv Zeren Yanjiu (环境法律责任研究) [STUDY ON ENVIRONMENTAL LEGAL LIABILITY]* 170-173 (2004).

31. In China, it refers to an administrative act that the environmental administrative authority itself (or it applies for an injunction through the court to) take enforcement measures against the property and freedom of the offenders when they violate the obligations or fail to perform the obligations. According to the existing laws, administrative compulsions that can be issued and performed by the environment protection authorities includes the followings: (1) seal up and detain the facilities and equipment; (2) administrative detention; (3) administrative substitutive performance. See 2014 EPL, *supra* note 23, at art.25, 63; Xingzheng Qiangzhi Fa (行政强制法) [Administrative Compulsion Law] (promulgated by the Standing Comm. Nat'l People's Cong., June. 30, 2011, effective Jan. 1, 2012) art. 50, 2011 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.

Figure 1 shows the basic model of environmental administrative law enforcement in China. As far as the EED has already occurred, the current law in China generally adopts the liability system which combines administrative orders, administrative penalties, and administrative coercion to remedy the damages.<sup>32</sup> In other words, the administration can order a violator to correct illegal behaviors, to eliminate pollution, and to restore the damaged ecological environment within a time limit. If the violator fails to take measures to control the situation within the deadline, the administrations may act and then claim the cost. If the violator is unwilling to bear the liability, the administration may apply to the court for enforcement. This type of case does not involve trials, and judicial review of administrative decisions is often limited to “documentary review.” If the legality of an administrative order is upheld, a court may use coercive measures to enforce the obligations contained in the administrative order.<sup>33</sup>

A comprehensive evaluation of the implementation of China’s environmental law reveals that although the above-mentioned law enforcement has become increasingly strict on the whole,<sup>34</sup> there are still some deficiencies in practice, and the underlying trend of environmental degradation has not been completely contained.<sup>35</sup> For example, administrative penalties presently face many difficulties, such as the lack of substantial binding force of admonition penalty, the low amount of monetary penalties, and poor application of cease, desist, close penalties. These challenges mean that the environmental administrative penalty mechanism is “full of holes.” Despite the above-mentioned penalties, damaging actions that result in the depletion and destruction of the environment remain and

---

32. See Zhang Bao (张宝), *Shengtai Huanjing Sunhai Zhengfu Suopei Quan yu Jianguan Quan de Shiyong Guanxi Bianxi* (生态环境损害政府索赔权与监管权的适用关系辨析) [An analysis of the applicable relationship between government civil claim and supervision power in ecological environment damage relief], 32 FAXUE LUNTAN (法学论坛) [LEGAL F.] 14, 14-21 (2017).

33. Juan Chu, *Vindicating Public Environmental Interest: Defining the Role of Environmental Public Interest Litigation in China*, 45 ECOLOGY L. Q.485 (2018).

34. See He Yingchun (贺迎春) & Wang Shaoshao (王绍绍), *Shang Bannian Quanguo Huanjing Xingzheng Chufa Anjian Xiada* (上半年全国环境行政处罚案件下达处罚决定书72192份) [72192 written decisions on punishment were issued in national environmental administrative punishment cases in the first half of the year], Renming Wang (人民网) [PEOPLE.CN] (Feb. 27, 2019), <http://env.people.com.cn/n1/2018/0725/c1010-30169455.html> (the statistics data from the Ministry of Ecology and Environment (China) reveal that 72,192 written decisions on environmental administrative penalties were issued with the amount of fines and confiscations totalin 585,030.78 million yuan, from January, 2018 to June, 2018).

35. See Xu Ruizhe, *Buru Huanjing Xianfa Shidai* (步入“环境宪法”时代) [Entering the Era of “Environmental Constitution”], Shangguan (上观) [SHANGHAI OBSERVER] (Feb.2, 2019), <https://www.jfdaily.com/news/detail?id=116730> (“2017 data showed that the national environmental protection authorities issued a total of 233,000 environmental administrative penalties, up 86.5% year-on-year. The total amount of fines and penalties was 11.56 billion yuan, up 74.2% year-on-year, including continuous daily fines, sealing up or seizing, restricting production or suspending business, transferring the case to the public security authority for administrative detention or the pProcuratorates for subjecting to criminal liability. However, due to the difficulties of supervision, evidence collection and law enforcement, grass-roots environmental protection law enforcement still has a “soft” phenomenon. There are more than 2,850 county-level administrative districts in China, including more than 960 municipal districts. The environmental protection agencies of each county-level administrative region made 81.72 administrative penalties decisions on average. However, the average case number of continuous daily fines and transferring for subjecting to criminal liability were only 0.41 and 0.91 respectively.”).

continue to spread unceasingly. These dilemmas relate to law enforcement issues and they reflect that the current legal design cannot fully achieve the principle of “polluter pay” or effectively deter the violators. Usually, damage to the environment is remediated by the governments, which often happens to be the most expensive part of the whole remediation process. Therefore, some American scholars refer to their similar system—“natural resource damage”—as a “sleeping giant.”<sup>36</sup> In this context, eliminating the dilemma of “polluted by the enterprises, paid by the government,” is one of the crucial driving forces in the Chinese government’s attempt to change its identity temporarily, and to claim “compensation” from enterprises or individuals who damage the environment on behalf of the Chinese population.

### B. An Immature Tool: Public Interest Litigation in China

China’s new EED Compensation System involves both the national interest and the public interest,<sup>37</sup> and public interest litigation marks one of the earliest specific remedies to address the issue related to public environmental interests in China.<sup>38</sup> Public interest litigation originated from the citizen suits of the United States,<sup>39</sup> which permit citizens to initiate environmental citizen lawsuits if statutory conditions of degradation are met.<sup>40</sup> Public interest litigation in China can be divided into two categories: civil public interest litigation and administrative public interest litigation.<sup>41</sup> In 2012 and 2017, China amended its Civil Procedure Law twice and

36. Shawn Kelly et al., *New Jersey’s Natural Resource Damages Initiative: Is the “Sleeping Giant” Waking Up?*, 56 FED’N DEF. CORP. COUNS. Q. 345 (2006).

37. See Wu Weiyu (吴惟予), *Shengtai Huanjing Sunhai Peichang zhong de Liyi Daibiao Jizhi Yanjiu (生态环境损害赔偿中的利益代表机制研究——以社会公共利益与国家利益为分析工具)* [Study on the Representative Mechanism of Interests under the Compensation for Ecological and Environmental Damage], 37 Hebei Faxue (河北法学) [HEBEI L. SCI.] 129, 129-146 (2019).

38. See Yanmei Lin & Jack Tuholske, *Field Notes From the Far East: China’s New Public Interest Environmental Protection Law in Action*, 45 ENVTL. L. REP. 10855, 10855-10862 (2015) (China’s initial foray into holding polluters legally accountable was premised on private tort law first appeared in the late 1980s. However, the Chinese government is acutely aware of the huge cost that pollution is taking on the country, and the growing discontent among citizens who must bear these costs. To change this situation, the Chinese NGOs first filed public interest pollution cases beginning in 2009. The National People’s Congress began addressing the barriers in the judicial procedures as well, by adopted amendments to China’s Civil Procedure Law).

39. Richard L. Abel, *The globalization of public interest law*, 13 UCLA J. INT’L L. & FOREIGN AFF. 295, 295-306 (2008).

40. See Johnson, B. H., *Enforcing the federal water resource servitude on submerged and riparian lands*. 1977 DUKE L. J. 347, 347-388 (1977) (generally, citizens have sought to be permitted to initiate environmental lawsuits in two types of situations: (1) to challenge government efforts or failures to manage or regulate the environment and (2) to sue other private entities to enjoin the latter’s activities on public or private lands which violate specific statutory standards).

41. See Yanmei Lin & Shaobo Hu, *Environmental Civil Public Interest Litigation: Empowering Chinese Environmental NGOs to Fight against Pollution*, 13 CHINA ENVTL. S. 60, 61 (2016) (environmental public interest litigation is generally defined as cases filed by “units and individuals who have no direct statutory interests related to the claims . . . against those who polluted the environment and/or damage natural resources or against administrative agencies that failed to fulfill their legal duties to protect the environment and natural resources.” Based on this definition, there are two types of environmental public interest litigation: (1) environmental civil public interest litigation in which the

added the “Civil Public Interest Litigation” clause, which authorizes legally prescribed departments and qualified social organizations (2012)<sup>42</sup> and the People’s Procuratorate (2017)<sup>43</sup> to institute civil public interest litigation in the courts when they find conduct that undermines the protection of the ecological environment and resources. These plaintiffs can claim for: monetary compensation, repair/replacement of the damaged resources, or an injunction. The 2017 revised Administrative Procedure Law stipulates that the Procuratorates have the standing to initiate administrative public interest litigation to correct the authorities’ improper environmental administration.<sup>44</sup>

Figure 2 shows the process of these two types of public interest litigation in China. The main purpose of civil public interest litigation is to take remedial measures to restore the damaged ecological environment after pollution and destruction occurs, whereas administrative public interest litigation is aimed at prevention, emphasizing the pre-governance or post-governance stages through forcing those governments to perform their mandatory duty.<sup>45</sup> To date, public interest

public interest litigants sue the polluters and (2) environmental administrative public interest litigation in which the government agencies are the defendants).

42. See Li Yong (李勇), *Zhongguo Shehui Zuzhi de Fazhan yu Gaige* (中国社会组织的发展与改革) [*The development of social organizations in China*], 5 *Zhongguo Shehui Gongzuo Qikan* (中国社会工作期刊) [CHINA J. SOC. WORK] 173, 173-177 (2012) (social organizations in China are similar to NGOs in the United States, but more extensive. Chinese social organizations include community groups, trust foundations and grassroots non-profit organizations, which are characterized by their concerns for public welfare. These organizations cover a wide range of fields, including, education, social services, public health, environment, civil administration, and so on. They are a useful complement to public service provisions and social management. Additionally, they have become the link that bridges the state and broader society); *Minshi Susong Fa* (民事诉讼法) [Civil Procedure Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Apr. 9, 1991, effective Apr. 9, 1991, amended Aug. 31, 2012), art. 55, 1991 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.) (Article 55: “For conduct that pollutes environment, infringes upon the lawful rights and interests of vast consumers or otherwise damages the public interest, an authority or relevant organization as prescribed by law may institute an action in a people’s court.”).

43. *Minshi Susong Fa* (民事诉讼法) [Civil Procedure Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Apr. 9, 1991, effective Apr. 9, 1991, amended June. 27, 2017, art. 55, ¶ 2, 1991 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.) (Article 55: “Where the people’s procuratorate finds in the performance of functions any conduct that undermines the protection of the ecological environment and resources, infringes upon consumers’ lawful rights and interests in the field of food and drug safety or any other conduct that damages social interest, it may file a lawsuit with the People’s Court if there is no authority or organization prescribed in the preceding paragraph or the authority or organization prescribed in the preceding paragraph does not file a lawsuit. If the authority or organization prescribed in the preceding paragraph files a lawsuit, the people’s procuratorate may support the filing of a lawsuit.”).

44. *Xingzheng Susong Fa* (行政诉讼法) [Administrative Procedure Law] (promulgated by the Standing Comm. Nat’l People’s Cong., Apr. 4, 1989, effective Oct. 1, 1990, amended Jun. 27, 2017, art. 25, ¶ 4, 1989 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.) (Article 25: “Where the people’s procuratorate finds in the performance of functions that any administrative authority assuming supervision and administration functions in such fields as the protection of the ecological environment and resources, food and drug safety, protection of state-owned property, and the assignment of the right to use state-owned land exercises functions in violation of any law or conducts nonfeasance, which infringes upon national interest or public interest, it shall offer procuratorial recommendations to the administrative authority, and urge it to perform functions in accordance with the law. If the administrative authority fails to perform functions in accordance with the law, the people’s procuratorate shall file a lawsuit with the people’s court in accordance with the law.”).

45. *Id.* See also *Jiancha Gongyi Susong Dianxing An’li* (检察公益诉讼典型案例) [*Typical Cases of Procuratorial Public Interest Litigation*], *Zuigao Renmin Jiancha Yuan* (最高人民法院) [SUPREME

litigation in China is still in the development and cultivation stages, meaning it is challenging for public interest litigation to be the main channel for effectively remedying the damaged public interests of the ecological environment. The Chinese social organizations face significant difficulties in instituting civil public interest litigations in two specific ways. First, the development of China's professional environmental NGOs is imperfect<sup>46</sup> and their technical (financial) strength for participating in social activities or making claims is uneven.<sup>47</sup> Sometimes the NGOs even lack enough knowledge or funds to deal with natural resources damage assessment and restoration supervision, as well as related litigation challenges.<sup>48</sup> Second, China's current legislation on public interest litigation is still immature, and some critical substantive and procedural issues have not yet been fully resolved, especially for the decision of the priority litigant.<sup>49</sup> Under the EED Compensation System, governments are empowered to initiate litigation on behalf of the national interest, while either NGOs or the Procuratorates can bring the public interest lawsuit to against the same defendants on behalf of public interest. In China, national interests and public interests are often intertwined. China has not established a pre-procedure similar to U.S. citizen suits—where the plaintiff is obligated to give notice to authorities and alleged violators 60 days before actions are commenced<sup>50</sup>—which makes it inconvenient to link up the relevant remedies for damages and may occupy excessive judicial resources.<sup>51</sup> Even if the relevant legislation (e.g., the 2017 CPL

---

PEOPLE'S PROCURATORATE PRC] (Sep.12, 2019), [https://www.spp.gov.cn/spp/zdgz/201803/t20180303\\_368651.shtml](https://www.spp.gov.cn/spp/zdgz/201803/t20180303_368651.shtml).

46. See Shehui Zuzhi Ruhe Faqi Gongyi Susong (社会组织如何发起公益诉讼) [*How Social Organizations Launch Public Interest Litigation*], Xinhua Wang (新华网) [XINHUA NET] (Jan. 21, 2019), [http://www.xinhuanet.com/gongyi/2018-03/21/c\\_129832117.htm](http://www.xinhuanet.com/gongyi/2018-03/21/c_129832117.htm). (there are more than 700 environmental social organizations in China that meet the qualifications shown in Figure 2, but only 25 of them have ever filed public interest litigation in 2015-2017. The first instance cases of environmental public interest litigation initiated by social organizations only account for less than 20% (246 cases) of all public interest litigation in China).

47. Li Nan (栗楠), Huanbao Zuzhi Fazhan Kunjing Yu Duice Yanjiu (环保组织发展困境与对策研究) [*Dilemma and Solutions of the Development of Environmental Protection Organizations*], 57 Henan Daxue Xuebao Shehui Kexue Ban (河南大学学报社会科学版) [J. HENAN U. (SOC. & SCI.)] 64 (2017).

48. E.g., Friends of Nature & All China Env'tl. Fed'n v. Changlong Chemical Industry Co., Ltd. Et AL., CHANGZHOU INTERM. PEOPLE'S CT. (Feb. 25, 2017) (the Friends of Nature Environmental Institute and the China Biodiversity Protection and Green Development Foundation brought a public interest litigation against three chemical manufacturers in Changzhou, Jiangsu province, responsible for contaminating land and causing sickness among residents. In January 2017, the intermediate court ruled that the plaintiffs had lost the case and they had to bear a "court acceptance" fee of 1.89 million yuan (\$275,000); See Li Chao (李超) & Yun Kuizhao (恽奎照), Nanyi Chengshou de Tianjia Susong Fei (难以承受的天价诉讼费) [*Unbearable "Sky-high Litigation Fee"*], Zhongguo Qingnian Bao (中国青年报) [CHINA YOUTH DAILY] (Feb. 7, 2017) <http://www.chinadevelopmentbrief.cn/news/final-decision-taken-on-the-changzhou-poisonous-land-environmental-litigation/> (The Green Development Foundation has launched an online fund-raising campaign to raise nearly 1 million yuan for the fees, with a limit of two yuan per person).

49. See *infra* note 50 (another example is related to the limitation of prosecutions for the public interest suits filed by the Procuratorates. The 2017 CPL and 2017 APL are ambiguous about this issue, i.e., whether there exists the extinctive prescription in public interest litigation initiated by procuratorate).

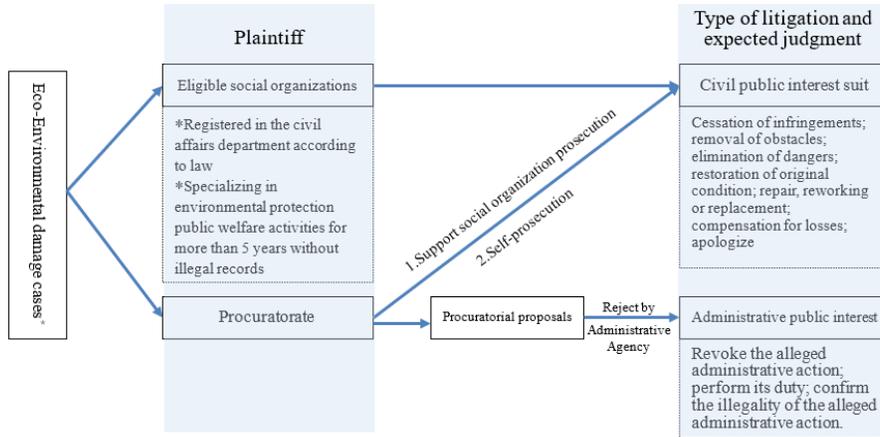
50. 42 U.S.C. § 9659(e) (1986).

51. See Guanyu Jiancha Gongyi Susong Anjian Shiyong Falv Ruogan Wenti De Jieshi (关于检察公益诉讼案件适用法律若干问题的解释), Interpretation on Several Issues concerning the Application of Law in the Conduct of Procuratorial Public Interest Litigations (promulgated by the Sup. People's Ct.,

and the 2014 EPL) has been continuously improved in recent years, it is still infeasible and unrealistic to fully liberalize public interest litigation for social organizations, which may require a long-term training process to achieve maturity.

Figure 2: The basic model of public interest litigation in China and its plaintiff

\* Not including marine environmental civil public interest litigation<sup>52</sup>



### III. Arising from the Ashes: The Reform of EED in China

#### A. Necessity and Theoretical Basis of the EED Compensation System

##### 1. Establishing A New System to Change the Predicament

Based on the issues discussed above, in 2015, China began to formally explore the EED Compensation System to solve the dilemma of “tragedy of the commons” and to break the paradox of “polluted by the enterprises, suffered by the

Feb. 11, 2018 and Sup. People’s Procuratorate, Feb. 13, 2018, effective Mar. 2, 2018), arts. 13, SUP. PEOPLE’S CT. AND SUP. PEOPLE’S PROCURATORATE. (At present, there is a judicial interpretation stipulate that who is the priority litigant among the Procuratorates, NGOs, and other eligible plaintiffs. The People’s Procuratorates shall make a public announcement with a period of 30 days, when they intend to institute a public interest lawsuit. They may actually bring a lawsuit to the people’s court only if those plaintiffs do not initiate public interest litigation during the above 30-day period.)

52. Haiyang Huanjing Baohu Fa (海洋环境保护法), Marine Environmental Protection Law (promulgated by the Standing Comm. Nat’l People’s Cong., Aug. 23, 1982, effective Apr. 1, 2000, amended Nov. 4, 2017), art. 89 (2), 1982 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ. (According to Article 89 of the China’s Marine Environmental Protection Law (2017 Amendment), “For any damages caused to marine ecosystems, marine aquatic resources or marine protected areas that result in heavy losses to the State, the interested department empowered by the provisions of this Law to conduct marine environment supervision and control shall, on behalf of the State, claim compensation to those held responsible for the damages.”) [hereinafter the 2017 MEPL].

See Friends of Nature v. Rongcheng Weibo Fisheries Co., Ltd., 2017 SHANDONG SUP. PEOPLE’S CT. (Final Civil Judgment No. 1334, 2018, for the relevant court jurisprudence).

public, paid by the government.”<sup>53</sup> For China, the huge remedy costs for ecological damage are usually actual paid by the local governments in the past, and public interest suits under the Civil Procedure Law is perhaps the only feasible method to claim damages from polluters.<sup>54</sup> However, the EED Compensation System is a new type of environmental damage remedy and a future primary system, which differs from the existing tort law institution and environmental administrative law institution in China. It will become a new regular remedy system for the damaged ecological environment and enrich the options for the governments in dealing with the pervasive ecological damages. In the existing legal system, it is difficult to effectively hold offenders responsible for environmental pollution and ecological destruction and restore the damaged ecological environment, especially in EED cases. For this reason, many serious EED problems often fail to be restored and compensated promptly and effectively.<sup>55</sup> The Department of Policy and Regulations of the former Ministry of Environmental Protection provides case statistics submitted by 32 environmental damage appraisal and assessment agencies in May 2016, and Table 1 below provides an overview of the size of those EED restorations.<sup>56</sup>

To remedy the severely damaged ecological environment may involve complex interests and will require massive capital.<sup>57</sup> It is impractical and inefficient to solely rely on either an administrative remedy, or a remedy through the government with advance funds. The reform of the EED Compensation System, as a new content of China’s “ecological civilization” progress, responds to the lack of feasible paths and liability assigning mechanism to EED. The core of this reform is impels offenders to bear the liability, and to remedy the damaged ecological environment or to pay the compensation. The establishment of this system contributes to the realization of the ecological value of environmental resources and fully reflects the new requirement for “harmonious coexistence between man and

---

53. See Zhonggong Zhongyang Guanyu Quanmian Shenhua Gaige Ruogan Zhongda Wenti De Jueding (中共中央关于全面深化改革若干重大问题的决定), Decision of the Central Committee of the Communist Party of China on Several Major Issues of Comprehensive Deepening Reform (promulgated by CPC. Committee, Nov. 12, 2013), [http://www.gov.cn/jrzq/2013-11/15/content\\_2528179.htm](http://www.gov.cn/jrzq/2013-11/15/content_2528179.htm) (last visited by Mar. 28, 2019), and *supra* note 2. (The idea of establishing this system first appeared in a document issued in November 2013. The General Plan for the Reform of Ecological Civilization System further clarified that the system of compensation for damage to the ecological environment should be strictly implemented.).

54. YANMEI LIN & JACK TUHOLSKE, *supra* note 37 (Chinese private tort law has inherent weaknesses as a means for remedying pervasive pollution problems, and judgments according to the tort law have been modest and remedies have been difficult to enforce.).

55. Alex Wang, *The Role of Law in Environmental Protection in China: Recent Developments*, 8 VT. J. ENVTL. L. 195, 212-219 (2007) (For example, a large damage award in the Rongping Joint Chemical Plant in Fujian Province in 2005 did not solve the environmental problems that caused the pollution.).

56. Zhang Zitai (张梓太) & Wu Weiyu (吴惟予), Shengtai Huanjing Sunhai Peichang Lifa Yanjiu (生态环境损害赔偿立法研究), *Research on Legislation of Compensation for Eco-Environment Damage in China*, 46 Huanjing Baohu (环境保护) Env'tl. Protection 25, 25-30 (2018).

57. (See Figure 5 and Table 1 for the amounts of compensation and restoration value. The EED cases usually involves national interest, public interest and even private interest, which will be discussed as following.)

nature”<sup>58</sup> in China, while also effectively deterring potential offenders who may pollute the environment and destroy ecosystems.<sup>59</sup>

Table 1: Five largest EED restorations cases in China (Before 2016)

Case name	Year occurred	Restoration Value
Cadmium spill in Longjiang River (Guangxi Province) <sup>60</sup>	2012	236 million yuan
Severe water pollution in Tuojiang River (Sichuan Province) <sup>61</sup>	2004	300 million yuan
Severe pollution in the Tengger Desert (Inner Mongolia Autonomous Region) <sup>62</sup>	2014	575 million yuan

58. See XI JINGPING, SECURE A DECISIVE VICTORY IN BUILDING A MODERATELY PROSPEROUS SOCIETY IN ALL RESPECTS AND STRIVE FOR THE GREAT SUCCESS OF SOCIALISM WITH CHINESE CHARACTERISTICS FOR A NEW ERA 23 (2018) (It means that man and nature are the community of life and maintain a good state of sustainable development between them. Humankind respects, protects and conforms to nature, while nature nourishes, nurtures and enlightens humankind.).

59. See Figure 5 (Since the establishment of the new system, the liable parties may face huge compensation for remedying the damaged environment.).

60. See Wang Qian, *Officials Fired Over Cadmium Spill*, CHINADAILY, (Feb. 6, 2012), [http://www.chinadaily.com.cn/china/2012-02/04/content\\_14536280.htm](http://www.chinadaily.com.cn/china/2012-02/04/content_14536280.htm). (The 2012 Guangxi cadmium spill occurred in January 2012 when toxic cadmium contaminated the Guangxi Longjiang river and water supply. The local authorities estimated that more than 40,000 kilograms of fish were found dead from January 15 to February 2 within the city limits. The spill was caused by Jinhe Mining company. The government stopped supply of tap water to Liuzhou city, affecting 3.7 million residents. More than 60% of cadmium content in the Longjiang River in Hechi, previously reported as five times higher than the restricted level, has been diluted and absorbed, according to experts.).

61. See Xinhua News Agency, *Water Quality of Polluted River Improving*, CHINA.ORG (Feb. 16, 2019), <http://china.org.cn/english/environment/93134.htm>. (From Feb. 11 to March 2, a large amount of highly-concentrated ammonia nitrogen waste water was directly released into Tuojiang River without any sewage treatment by the Second Chemical Fertilizer Factory under the Sichuan chemical industry group corporation. The river was severely polluted with the ammonia nitrogen indices in the middle and lower reaches far exceeding the state criteria, according to the monitoring by local environmental protection authorities. Water supply to about one million people in Jianyang, Ziyang, Neijiang cities was forced to stop due to the severe pollution, which also killed numerous fishes in the river.).

62. See Zuigao Renmin Fayuan (最高人民法院), Shiqi Huanjing Gongyi Susong Dianxing An’li (十起环境公益诉讼典型案例), Ten Model Cases regarding Environmental Public Interest Litigations Published by the Supreme People’s Court (2017), SUP. PEOPLE’S CT., <http://www.lawinfochina.com/display.aspx?id=24185&lib=law&SearchKeyword=&SearchCKeyword=>, (last visited by Feb.16, 2019) (China Biodiversity Conservation and Green Development Foundation v. Ningxia Ruitai Science and Technology Co., Ltd., et al. (A series of public interest litigations regarding pollution of the Tengger Desert)).

63. See Guo Ping, *Hundreds of Villas in the Qinling Mountains Have Not Been Claimed by the Audit Team*, BEIJING NEWSPAPER (Dec. 13, 2018), [https://www.jqknews.com/news/110544-Hundreds\\_of\\_villas\\_in\\_Qinling\\_Mountains\\_have\\_not\\_been\\_claimed\\_by\\_the\\_audit\\_team\\_the\\_owners\\_have\\_been\\_identified.html](https://www.jqknews.com/news/110544-Hundreds_of_villas_in_Qinling_Mountains_have_not_been_claimed_by_the_audit_team_the_owners_have_been_identified.html). (The Qinling Mountains are the demarcation line of climate between the north and the south of China and an important ecological security barrier. They have many functions, such as regulating climate, conserving water and soil, conserving water sources, and maintaining biodiversity. However, in recent years, its ecological environment has been continuously destroyed. According to the disclosure, illegal buildings in the northern foot of The Qinling Mountains began in 2003. Villa builders destroyed the mountain body wantonly, discharged domestic sewage at will, and even leveled the hillside artificially, occupied the woodland at will, causing severe damage to the ecological environment.).

Ecological Damage in Qingling Mountain (Shanxi Province) <sup>63</sup>	2014 (exposure date)	At least 25 billion yuan has already been invested in restoration
Oct. 21 major illegal dumping of hazardous wastes in Zhangqiu District of Jinan City (Shandong Province) <sup>64</sup>	2015	232 million yuan

## 2. Theoretical Basis of the New System: State Ownership of Natural Resources

China's reform of EED Compensation System has entered its fourth year. The trajectory of the reform is increasingly becoming a clear path to more national private interest claims.<sup>65</sup> The State Council, as the central government, exercises the state ownership of natural resources on behalf of the state, while the provincial and municipal people's governments, authorized by the State Council, carry out the negotiation or bring a lawsuit for EED with the identity of specific compensatory rights holders. Among them, both negotiation (including judicial confirmation<sup>66</sup> after successful negotiation) and litigation of EED are actually operated under the Civil Procedure Law. The current reform of the EED Compensation System is built on the theory of ownership in the continental law system. It is self-consistent and reasonable for the government to become the interest representative and the claimant based on the state ownership of natural resources.

The so-called state ownership of natural resources is the right of the state to occupy, use, benefit from, and dispose of its natural assets according to law. The complete state ownership of natural resources in China is based on the provisions of

64. See Jianlei Shi, *Enterprises Involved in the First Case of Haze Public Interest Litigation were Fined and Awarded Compensation of 20 Million Yuan*, JQKNEWS (Jan. 2, 2019), [https://jqknews.com/news/134851-Enterprises\\_involved\\_in\\_the\\_first\\_case\\_of\\_haze\\_public\\_interest\\_litigation\\_were\\_fined\\_and\\_awarded\\_compensation\\_of\\_20\\_million\\_yuan.html](https://jqknews.com/news/134851-Enterprises_involved_in_the_first_case_of_haze_public_interest_litigation_were_fined_and_awarded_compensation_of_20_million_yuan.html).

(From July to November 2015, Shandong Jincheng Heavy Oil Chemical Co., Ltd. illegally dumped 23.7 tons of waste alkali liquor into the abandoned colliery, and Shandong Hongju New Energy Co., Ltd. illegally dumped 17 vehicles 640 tons of waste acid liquor into the same abandoned colliery. It is precisely the toxic gases produced by the reaction of the hazardous waste dumped by these two enterprises that cause death. Experts introduced that the monitoring results showed that the dumped waste liquid and existing groundwater as carriers had spread to some downstream groundwater wells, including surrounding irrigation wells and drinking wells. According to the simulation calculation, there were 4500 groundwater contaminated in the curtain grouting area, and about 9,000 tons of contaminated soil with an area of 14,000 square meters. Based on the judgment of pollution scope and degree, the cost of emergency disposal is 34 million yuan, the cost of damage to polluted groundwater is 126 million yuan, and the cost of damage to contaminated soil is 72 million yuan. To sum up, the total amount of compensation for ecological environment damage in this case is 232 million yuan.)

65. See *supra* note 18 (The state owns the majority of the natural resource in China according to the Constitution and the laws.)

66. See *Guanyu Renming Tiaojie Xieyi Sifa Queren Chengxu de Ruogan Guiding* (关于人民调解协议司法确认程序的若干规定), Several Provisions of the Supreme People's Court on the Judicial Confirmation Procedure for the People's Mediation Agreements (promulgated by the Supreme People's Ct., Mar. 23, 2011, effective Mar. 30, 2011), arts. 8-9, SUP. PEOPLE'S CT. (Judicial confirmation is a legal procedure for dispute parties to apply for confirming their mediation agreement by court. If a court accept it and make a decision of confirmation, both of the parities shall perform their mediation agreement. Where a party concerned refuses to perform or fails to fully perform the above confirmed agreement, the other party may apply to the court which made the confirmation decision for enforcement.). See *infra*, note 123 (for the basic text, People's Mediation Law).

article 9 (paragraph 1) and article 10 (paragraph 1-2) of the Constitution. However, its specific content is stipulated in China's separate laws, such as property law, water law, forest law, and mineral resources law.<sup>67</sup> That way, the state ownership of natural resources—originally appearing in the Constitution—can be regulated by property law.<sup>68</sup> The reform of EED Compensation System is an attempt to achieve the purpose of protecting and safeguarding the damaged ecological environment through utilizing the protection mechanism of the property rights and interests of the natural resource owners under the current legal regime.<sup>69</sup> Reviewing the Pilot Practice (2016-2017) of seven provinces (and province-level municipalities) in China,<sup>70</sup> this idea is feasible and practical in most scenarios, and can remedy the defects of the system when the claimant is unknown and the state-owned natural resources are damaged.

## B. Step by Step: China's EED Reform Plan

### 1. The General Schedules of EED Reform

According to the requirements of the Pilot Plan for the Reform of the Ecological Environment Damage Compensation System,<sup>71</sup> the reform of EED, as a landmark innovative practice exploration in China's environmental protection, will last for about five years and be divided into three stages.

At the 2016-2017 pilot stage, seven provinces were selected for piloting. The State Council authorized the above provincial governments to represent the country (the principal natural resource owner in China) to initiate negotiations or litigation on EED. The purpose of this stage is to gradually clarify the proper application scope of EED Compensation System—the liable parties, the claimants, and the possible ways to the damage claims—as well as to develop the corresponding damage identification and assessment, capital guarantee and operation mechanism.

The second stage was the trial implementation stage, running from January 1, 2018 to December 31, 2019. By summarizing the innovative practices at the pilot

67. See [Source name?] *supra* note 18.

68. See Cui Jianyuan, Ziran Ziyuan Guojia Suoyou Quan de Dingwei ji Wanshan (崔建远, 自然资源国家所有权的定位及完善) [*Orientation and Improvement of State-Ownership of Natural Resources*], 35 Faxue Yanjiu (法学研究) CHINESE J. OF L. 66, 66-68 (2013) (explaining, in particular, the usufructuary rights derived from the ownership of natural resources, such as prospecting right, mining right, and breeding right are litigable).

69. See Reform Plan, *infra* note 72, at part VI-3 (“The local governments authorized by the State Council are the claimants for EED compensation.” Article 1: “The people’s government at the provincial or prefecture city level or the 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 people may file a lawsuit as the plaintiff on compensation for damage to the ecological environment.” Article 5: “Where the plaintiff files a lawsuit on compensation for damage to the ecological environment that complies with the Civil Procedure Law.”); See also Zuigao Renmin Fayuan Guanyu Shenli Shengtai Huanjing Sunhai Peichang An’jian De Ruogan Guiding (最高人民法院关于审理生态环境损害赔偿案件的若干规定[试行]) [Several Provisions of the Supreme People’s Court on the Trial of Cases on Compensation for Damage to the Ecological Environment (for Trial Implementation)] (promulgated by the Supreme People’s Ct., May 20, 2019, effective Jun. 5, 2019), arts. 1 & 5, SUP. PEOPLE’S CT. (formulating laws designed in accordance with China’s tort private law and Civil Procedure Law).

70. The details of the pilot practice will be introduced in the following part.

71. Pilot Plan, *supra* note 4.

stage, the Chinese central government formulated Reform Plan of the Ecological Environment Damage Compensation System,<sup>72</sup> and authorized all the 31 provinces (including municipalities directly under the Central Government/autonomous regions) of Mainland China to independently manage the specific claim process and restoration of EED within their respective administrative regions under the guidance of the Central Government's Reform Policy and other relevant laws, so as to accumulate more experience for the overall establishment of the system. Following the pilot areas in Jilin and other six provinces, the reform of EED has been spread throughout the whole nation.

The third stage is about the preliminary establishment of EED Compensation System. By around 2020, China aims to establish an efficient, comprehensive damage compensation system to protect and improve the country's ecosystem.<sup>73</sup>

## 2. Mapping the Framework of EED Reform

From a broad perspective, the Reform Plan, as an upgraded version of the Pilot Plan, has no significant changes in its core content, but is more comprehensive and specific in terms of its content and framework. For example, it expands the scope of claimants from provincial governments to municipal and prefectural governments, and requires the local governments to refine the specific circumstances and standards of initiating claims.<sup>74</sup> According to the requirements of the Reform Plan, the main components of the EED Compensation System are: (1) the applicable scope of the system; (2) the liable party and the claimant; (3) the range of "compensation"; (4) the negotiation; (5) specialized procedure rules for EED claims; (6) the restoration implementation and supervision; (7) the EED investigation, appraisal and assessment systems; and (8) fund management. As follows:

First, the applicable scope of the system is currently suitable for environmental emergencies of considerable or bigger magnitude, pollution and destruction incidents in key areas,<sup>75</sup> and other situations that seriously affect the ecological environment. Physical or property damage in traditional tort law and marine environmental and ecological environment damage are excluded.<sup>76</sup>

Second, in the pilot stage, the people's governments of provinces and municipalities authorized by the State Council are the eligible claimants for

---

72. See Shengtai Sunhai Peichang Zhidu Gaige Fang'an (生态环境损害赔偿制度改革方案) [Reform Plan of the Ecological Environment Damage Compensation System] (promulgated by St. Council, Dec. 17, 2017), [www.gov.cn/zhengce/2017-12/17/content\\_5247952.htm](http://www.gov.cn/zhengce/2017-12/17/content_5247952.htm) (last visited Mar. 3, 2020) [hereinafter Reform Plan] (refining the previous Pilot Plan and popularized the achievements of the pilot stage to the whole country, such as negotiate before litigation, judicial confirmation).

73. Xinhua Net, *China to expand pilot reform in ecological damage compensation*, CHINAPLUS, <http://chinaplus.cri.cn/news/china/9/20171217/66225.html> (Dec. 17, 2017, 9:32 PM).

74. See Reform Plan, *supra* note 72 (ascertaining eight tasks, including "making clear the scope of compensation," "conducting negotiations over the compensation" and "improving procedural rules for damage proceedings," as well as calling for public participation, the information concerning the EED investigation, appraisal and assessment, compensation, judicial instruments, and reports on the ecological environment remediation effect).

75. This may include key ecological, functional, and prohibited development zones, such as national parks.

76. Reform Plan, *supra* note 72, part III-2.

compensation.<sup>77</sup> In practice, these local governments usually designated environmental protection bureaus, legislative affairs offices, and other relevant institutions<sup>78</sup> that manage specific claiming tasks. The local governments, as the nominal claimants, only may appear in the process of negotiation and litigation.<sup>79</sup> Accordingly, the liable parties are limited to the companies or individuals directly causing damage to the ecological environment due to illegal activities when the damage occurred. However, the Reform Plan also encourages local governments to expand the scope of liable parties as desired.<sup>80</sup>

Third, the range of compensation component may involve pollution removal costs, ecological environment restoration costs, loss of ecosystem services during the restoration, loss caused by permanent damage to ecosystem services, and other reasonable expenses such as investigation and appraisal of compensation for EED.<sup>81</sup> The local governments may propose to adjust the range of compensation merged with their progress and practical needs as well. Hence, some local governments have added attorney's fees and expert consulting fees into the total compensation.<sup>82</sup>

Fourth, the negotiation in the EED is more similar to settlement in the United States' CERCLA than to the former system. The difference in negotiation between EED and CERCLA is that it is a precondition for the Chinese local governments to bring an EED case into the courts. In other words, the governments can resort to judicial relief only if they failed to negotiate with the liable parties. Additionally, the agreement reached after negotiation can be jointly applied for judicial confirmation by the government and liable parties to the court, and thus is afforded the opportunity for enforcement by the court if one party fails to fulfill the terms of the agreement.<sup>83</sup>

77. See Pilot Plan, *supra* note 4 (stating that only provincial people's governments are eligible to be the claimant at the pilot stage).

78. Before the institutional reform of China in 2018, the protection functions of various environmental elements, such as water, land, and forest were separated in different department. For example, the former Ministry of Environmental Protection was responsible for the prevention and control of various types of pollution, and the former State Forestry Administration and the Ministry of Land and Resources managed forest, land, and wetland resources. Now, these functions are integrated into the Ministry of Ecology and Environment and the Ministry of Natural Resource – two newly enlarged ministers in China.

79. See *e.g.*, Chongqing Shi Renmin Zhengfu and Liangjiang Zhiyuan Fuwu Fazhan Zhongxin Su Chongqing Cangjin Ge Wuye Guanli Youxian Gongsi, Shouxu Huanbao Keji Youxian Gongsi Shengtai Huanjing Sunhai Peichang Susong An (重庆市人民政府、两江志愿服务发展中心诉重庆藏金阁物业管理有限公司、首旭环保科技有限公司生态环境损害赔偿诉讼案) [Chongqing Mun. People's Gov't, Liangjiang Volunteer Serv. Dev. Ctr. v. Chongqing Cangjin Ge Realty Mgmt. Co., Ltd. and Chongqing Shouxu Env'tl. Protection Tech. Co., Ltd.], First Intermediate People's Ct of Chongqing, Dec. 22, 2017, First Instance No. 773 (2017) (Beida Fabao 北大法宝) [pkulaw.cn].

80. Reform Plan, *supra* note 72, part VI-2.

81. Reform Plan, *supra* note 72, part VI-1.

82. See Anhuishe Shengtai Huanjing Sunhai Peichang Zhidu Gaige Shishi Fang'an (安徽省生态环境损害赔偿制度改革实施方案) [Implementation Plan for Reform of Compensation System for Ecological Environment Damage in Anhui Province] (promulgated by the People's Gov't of Anhui Province, Sep. 11, 2018), <http://zwgk.lingbi.gov.cn/3715078/23009737.html> (last visited Feb. 27, 2019).

83. The "Reform Plan", *supra* note 72, part VI-4.

Fifth, since the EED Compensation System is not fully compatible with China's current civil and administrative judicial systems, devising the specialized judicial procedure rules for EED claims becomes necessary. These demands of institutional adjustments are mainly reflected in the collection and use of evidence,<sup>84</sup> determining the competent courts and specific hearing divisions, and the hearing order in the trial.<sup>85</sup> Thus, the Chinese judicial authority needs to make corresponding adjustments according to the Reform Plan.<sup>86</sup> Meanwhile, judicial interpretations would be a more efficient way to meet above requirements of the reform as compared to legislation.<sup>87</sup>

Sixth, damage identification and assessment are the primary methods for determining the remedial task and compensation amount. In China, the processes of the identification and assessment for EED used to be time-consuming and costly, particularly for the land pollution. Compared with other types of pollution, the accumulation of soil and groundwater pollution is longer, the causes of pollution are more complicated, and the liability of damage is more difficult to investigate.<sup>88</sup> Introducing related technical guidelines by the Chinese central government has strong practical needs. Currently, the Ministry of Ecology and Environment (MEE) has formulated three technical guidance documents<sup>89</sup> to improve the standardization and maturation of domestic damage appraisal and appraisal institutions.<sup>90</sup>

84. (Based on the identity of the natural resource owner, the governments in EED litigation play the role of "private" plaintiff, and most of their evidence is collected by the administrative means. Thus, it is unfair that the governments can use those evidence against violators in the court under the civil procedures directly without any rule adjustment).

85. (When the court accepts a case of lawsuit on compensation for EED and the case of civil public interest lawsuit filed against the same damage to the ecological environment, it has to decide the trial of the which case shall be suspended first).

86. Reform Plan, *supra* note 72, part VI-5.

87. See Chen Su (陈甦), Sifa Jieshi De Jiangou Linian Fenxi (司法解释的建构理念分析) [*Analysis of the Constructing Thoughts of Judicial Interpretation*], 34 Faxue Yanjiu (法学研究) [Chinese J. Of L] 3 (2012) (In China, the time for formulating a judicial interpretation usually takes only less than 1 year after a new law was enacted or some new problems appeared, while passing a legislation by the National People's Congress may needs several years).

88. See Chao *supra* note 47; Xi Jianrong (郚建荣), Huanjing Bu Fa Zhinan Mingque Wuran Sunhai Pinggu Lujing (环境部发指南明确污染损害评估路径) [*Ministry Of The Environment Issued Guidelines To Identify Pollution Damage Assessment Paths*], Fazhi Wang (法制网) [Legal Daily] (Sep. 12, 2019), [http://www.legaldaily.com.cn/index\\_article/content/2019-01/18/content\\_7748650.htm](http://www.legaldaily.com.cn/index_article/content/2019-01/18/content_7748650.htm) (In the Changzhou First Instance Judgment, the litigation cycle lasted for 3 years. One of the important reasons is that the identification and assessment of soil pollution damage is too complicated).

89. See *Technical guidelines for identification and assessment of eco-environmental damage: General Programme*, Ministry of Environmental Protection, <http://www.mee.gov.cn/gkml/hbb/bgt/201607/W020160705361048221671.pdf>; *Technical guidelines for identification and assessment of eco-environmental damage: Damage investigation*, Ministry of Environmental Protection, <http://www.mee.gov.cn/gkml/hbb/bgt/201607/W020160705361048360117.pdf>; *Technical guidelines for identification and assessment of eco-environmental damage: Soil and groundwater* Ministry of Environmental Protection, <http://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/201812/W020181225553623908983.pdf>.

90. Reform Plan, *supra* note 72, part VI-7.

Seventh, the EED Compensation System is based on the principle of “restoring first while making pecuniary reparation subsidiary.”<sup>91</sup> Only when the damaged ecological environment is irreparable, will the pecuniary reparation be accepted. However, such principle does not exist in past EED cases, which also makes some damages not fully remedied but ends with monetary compensation.<sup>92</sup> The management of these compensations holds to the principle of “special funds appropriative,” and are reserved for current or future expenditures related to the EED.<sup>93</sup> However, due to China’s financial management system, most local governments, except a few regions like Guizhou,<sup>94</sup> still regard the compensation fund as non-tax revenue of the government and turn it over to the national treasury or general public coffer completely. In practice, the flaws of this system are as follows: (1) there are strict procedures for the management of national treasury, and each account has its specific use. If a remedy project is to be implemented, it needs to be included in the budget before it can be allocated. (2) The compensation funds may be diverted for other purposes by some local governments, which cannot remedy the environment.<sup>95</sup>

Finally, the remedy of the damaged ecological environment includes the clean-up of pollutants and the restoration of ecological functions to recover the environment as close as possible to its condition before the environmental damage occurred. The specific work can be undertaken by the liable parties, or by a third-party professional organization.<sup>96</sup>

Combined with the above-referenced specific system design requirements, the operation mode of the system to remedy the damaged ecological environment can be described as follows, when the EED occurs. (See figure 3)

---

91. Reform Plan, *supra* note 72, part II-2.

92. Guihua, *supra* note 25, at 174.

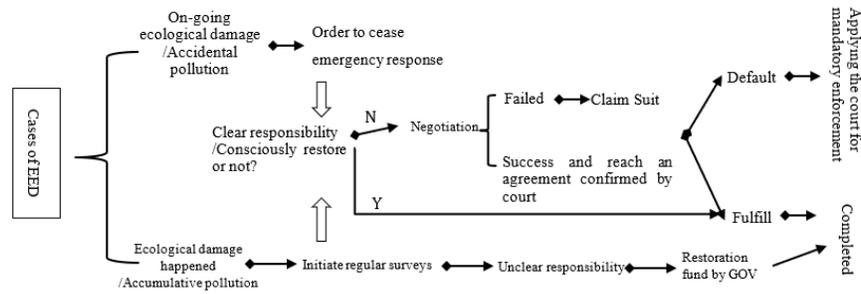
93. Reform Plan, *supra* note 72, part VI-8.

94. See Guizhousheng Shengtai Huanjing Sunhai Peichang Zhidu Gaige Shidian Gongzuo Shishi Fang'an (贵州生态环境损害赔偿制度改革试点工作实施方案) [Implementation Plan of Pilot Reform of Compensation System for Ecological Environment Damage in Guizhou Province] (promulgated by the People's Government of Guizhou Province, Nov. 6, 2016), [http://www.guizhou.gov.cn/jdhy/rdgz/201709/t20170926\\_995590.html](http://www.guizhou.gov.cn/jdhy/rdgz/201709/t20170926_995590.html) (last visited Oct. 29, 2019) (These regions are trying to establish a miniaturized “Superfund” at the local level. At pilot stage (2016-2017), Guizhou Provincial Environmental Protection Department, in conjunction with the Higher People's Court of Guizhou and the Department of Civil Affairs of Guizhou, has made bold innovations in exploring the establishment of Guizhou Provincial Foundation for Compensation for EED and formulated a preparatory work programme. However, there is no further progress up to the present).

95. Luo Guangqian (罗光黔), Shengtai Huanjing Sunhai Peichang Zijin, Youshui Guan? Zenme Guan (生态环境损害赔偿资金, 由谁管? 怎么管?) [Who is in charge of the compensation fund for ecological environment damage? How?], 25 Zhongguo Shengtai Wenming (中国生态文明) [CHINA ECOLOGICAL CIVILIZATION], 21 (2018).

96. Reform Plan *supra* note 72, part VI-8.

Figure 3: An overview of the process of China's EED Compensation System



### C. Relations with Other Systems: Public Interest Litigation and Administrative Law Enforcement

The EED Compensation System was established to solve a broad variety of China's ecological environment problems, as demonstrated by the broad definition of EED.<sup>97</sup> However, it can only account for a portion of the liability system for China's environmental damage, and it must work together with the traditional administrative law enforcement, environmental public interest litigation, and other means, to constitute the "ammunition depot" necessary to remedy the damaged ecological environment.<sup>98</sup> The ecological environment itself (especially the ecosystem services<sup>99</sup> and other types of the natural resources<sup>100</sup> which are not included in the national property sequence) is important to the public interest. It is inappropriate to take the government's claim action through the "private interest protection" path<sup>101</sup> in all EED cases. However, Chinese governments' claims under the state ownership of natural resources within the authorization of laws<sup>102</sup> have

97. See *supra* note 27.

98. See Wu Weiyu, *supra* note 36.

99. See MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: HEALTH SYNTHESIS 1-6 (2005) (Such as Waste decomposition and detoxification, Purification of water and air, Carbon sequestration and climate regulation).

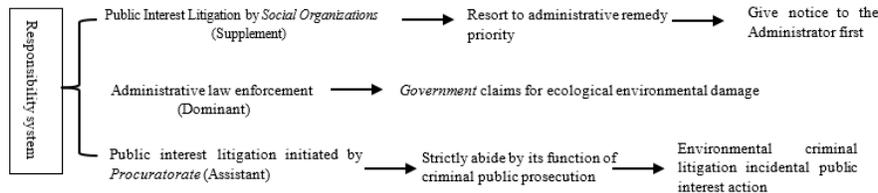
100. E.g., solar and wind energy.

101. (Although the state ownership of natural resources also has the attribute of public power, its public power orientation is mainly based on the legislative power, management power, supervision power and distribution power to regulate and manage the utilization of natural resources, and to ensure that the benefits of natural resources are used for the realization of public welfare).

102. At present, China's relevant laws only authorize the State Council to exercise state ownership of natural resources on behalf of the state. As for the expression refers to the local governments proposed in the "Reform Plan" (a policy document) -- "The State Council authorizes provincial and municipal people's governments to act as the claimant in the cases of compensation for ecological environment damage." It remains to be given more legitimacy by the National People's Congress (NPSC) and its

certain legal legitimacy in safeguarding the national interests of the damaged ecological environment, and can cover most of the situations of compensation for EED.<sup>103</sup> Therefore, the way in which new systems are connected with existing systems directly determines the efficiency of the implementation of the EED Compensation System. It relates to the stability and compatibility of the entire accountability system as well. According to the design of laws, policies and other documents promulgated by China's central authorities in the past three years, a pluralistic pattern of claimants including social organizations, Procuratorates, and people's governments have formed in the field of EED Compensation System in China.<sup>104</sup> As for the relationship between them, the Reform Plan only points out that they do not affect each other, but there is no definite conclusion on how to coordinate and link the systems in theory and practice. Therefore, by observing the trend of China's policy development in recent years, this article puts forth the development of China's current environmental damage model in Figure 4.

Figure 4: China's current responsibility system for ecological and environmental damage



The EED involves national interests and public interests, which are intertwined in the context of China's natural resource state ownership, making them difficult to distinguish. It must be recognized that national ownership/national interest cannot cover all natural resources (i.e. solar and wind energy) and its appendages (ecosystem services).<sup>105</sup> This phenomenon illustrates that the

---

Standing Committee through congressional authorization in the future. See Reform Plan *supra* note 72, part VI-3.

103. See Wu, *supra* note 36.

104. Environmental Protection Law of the People's Republic of China, *supra* note 23 at Article 58; Jiancha Jiguan Tiqi Gongyi Susong Gaige Shidian Fang'an (检察机关提起公益诉讼改革试点方案) [Plan for the Pilot Project of Reform of Instituting Public Interest Litigations by the Procuratorial Organs], (promulgated by the Supreme People's Ct. and the Supreme People's Procuratorate, Jul. 2, 2015, effective Jun. 5, 2019) SUP. PEOPLE'S CT. and SUP. PEOPLE'S PROCURATORATE; Renmin Fayuan Guanyu Shenli Jiancha Yuan Tiqi Gongyi Susong An'jian Shidian Gongzuo Shishi Banfa (人民法院审理人民检察院提起公益诉讼案件试点工作实施办法) [Notice of the Supreme People's Court on Issuing the Measures for the Implementation of the Pilot Program of Trial by People's Courts of Public Interest Litigation Cases Instituted by People's Procuratorates], (promulgated by the Supreme People's Ct. and the Supreme People's Proc., Feb. 25, 2016, effective Mar. 1, 2016) SUP. PEOPLE'S CT.

105. Wu, *supra* note 36.

An overview of the Typical National Interests in the Field of Natural Resources in China:

establishment of a systematic representative mechanism of ecological environment interests should not completely be left in the hands of government alone, but requires more diversified participants to pursue better cooperation. Specifically, as stipulated in the Reform Plan, “Related legal institution and eligible social organizations are encouraged to bring damage actions for compensation for ecological and environmental damage in accordance with the law.”<sup>106</sup> With regard to the theoretical basis for the participation of social organizations, this is a reference to the fact that social organizations in China can take actions by representing the public interest.<sup>107</sup> Part of the environmental benefits such as ecosystem services (e.g., purifying the

Source of Legal Authorization	Types of Interests	Degree of interest enjoyment
Law on Coal Industry	Coal Resources Interests	Full
Water Law	Water Resources Interests	Full
Mineral Resources Law	Mineral Resources Interests	Full
Law on the Administration of the Use of Sea Areas	Maritime Space Resources Interests	Full
Island Protection Law	Uninhabited Island Resources Interests	Full
Grassland Law	Grassland Resources Interests	Limited
Property Law	(1) Interests of land resources; (2) Interests of natural resources involve forests, mountains, grasslands, wasteland and shoals; (3) Interests of mineral resources, currents and marine resources; (4) Interests of wildlife resources	Limited
Forest Law	Forest, wood and woodland resources interests	Limited
Wild Animal Conservation Law	Wild animal resources interest	Limited
Land Administration Law	Land resources interest	Limited

106. Reform Plan, *supra* note 72, part VI-5.

107. The 2017 CPL and 2014 EPL allow qualified social organizations to challenge “acts of polluting or damaging the environment that have harmed the public interest.” Environmental Protection Law of the People’s Republic of China, *supra* note 23 at Article 58; Civil Procedure Law of the People’s Republic of China *supra* 42 at Article 55.

environment, conserving water and soil, mitigating disasters) are not unique to the nation, and those ownerless natural resources (e.g., atmosphere, solar energy, wind energy) are also not rightfully possessed by the nation. In other words, these are public interests that can be represented by social organizations. However, social organizations' participation in EED actions should be considered complementary, filling in the deficiency of the government in safeguarding the damaged ecological environment interests.

In contrast, the Procuratorates in China, as a legal supervision department stipulated by the Constitution, have the specific responsibilities to initiate public prosecution, protest, judicial review and supervision of criminal proceedings. In recent years, the public litigation function of Chinese Procuratorates has gradually begun to change. In addition to criminal prosecution, the Procuratorates can now institute environmental public interest litigation (including administrative public interest litigation and civil public interest litigation) as well. The purpose of civil environmental public interest litigation initiated by the Procuratorates is to remedy the injured environment on behalf of the public interest. From the perspective of reasonable and efficient representation of interests, however, if there are statutory authorities or social organizations that have already initiated civil public interest litigations, it is unnecessary for the Procuratorates to initiate civil public interest litigation do this by themselves., instead of It would be better for the Procuratorates to play the role of turning to the way of supporting those statutory authorities and social organizations prosecution<sup>108</sup> [66].

When dealing with compensation cases of EED, the Procuratorates should give full play to the advantages of their legal supervision duties. Unless the government claimants and social organizations are incompetent or unwilling to negotiate or litigate with the liable parties to remedy the damaged ecological environment, the Procuratorates can take the place of environmental civil public interest litigation in the name of protecting ecological environment interests. In other words, the current Procuratorates' role is not to initiate the EED litigation in the "opening minutes" directly, and should mainly involve participation as a supervisor.

Moreover, taking actions to claim for EED compensation is the responsibility of the local governments, as stipulated in both the Pilot Plan and the Reform Plan. The Procuratorates can supervise and urge the local governments (and their departments or institutions) to either perform their duties through procuratorial suggestions according to law,<sup>109</sup> or to initiate administrative public interest litigation. Among those two choices, the former would be the Procuratorates' preferred route, while the latter is the last resort.

---

108. Cf. Zhang & Wu, *supra* note 55.

109. Renmin Jianchayuan Zuzhi Fa (人民检察院组织法) [Organic Law of the People's Procuratorates of the People's Republic of China] (promulgated by Nat'l People's Cong., July 5, 1979, effective Jan. 1, 1980, amended Oct. 26, 2018) art. 21, 1991 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.

#### IV. MOVING FORWARD: REALITY AND FUTURE LEGISLATION PLAN

##### A. Evaluating the Reform Practice

The reform of China's EED Compensation System has been in operation for four years since it was officially launched in December 2015.<sup>110</sup> According to the arrangement of the Pilot Plan, the first batch of seven provinces have completed the pilot projects before the end of 2017, and the achievements during the pilot period (including specific system design, typical cases, and practical experience) have been reported to the former Ministry of Environmental Protection.<sup>111</sup> Since January 1, 2018, the system reform has entered the second stage—the “national trial” in China. At this stage, the other provinces in mainland China will carry out the reform of the EED Compensation System in their respective administrative areas, in addition to the previous seven pilot provinces. By the second half of 2018, all provinces in mainland China have promulgated their local version of “Implementation plan for the reform of the ecological environment damage compensation system” (hereinafter referred to as the “Implementation Plan”). Additionally, they are actively formulating corresponding supporting systems,<sup>112</sup> e.g., setting up damage appraisal and assessment centers, and seeking suitable and typical cases of ecological environment damage compensation to claim for restoration/compensation. Overall, the contents of these “Implementation Plans” are mostly based on the “Reform Plan,” which similarly combines the local features and practical needs of each province and refers to the experience of other provinces horizontally. Because the local governments are fully authorized by the central government, the pursuance of EED cases and remedies vary from province to province.<sup>113</sup> Most provinces, however, are vigorously pushing forward in identifying cases and liable parties, assessing damages, and more.<sup>114</sup> The specific cases information currently available is mainly from seven pilot provinces. According to this data, the reform in China has the following characteristics:

*(1) The existing cases do not involve retrospective liability*

Judging from the ongoing and completed EED claims submitted to the central government by the local governments in China, the sources of these cases are mainly: a) cases that have been preliminarily investigated by the relevant

110. Pilot Plan for the Reform of the Ecological Environment Damage Compensation System *supra* note 4.

111. To date, the Chinese government has not released a complete feedback report on the reform of EED. Detailed official information is still lacking.

112. E.g., Guizhousheng Shengtai Huanjing Sunhai Peichang Cuoshang Banfa (贵州省生态环境损害赔偿磋商办法试行) [Negotiation Scheme for Compensation for Eco-environmental Damage in Guizhou Province (Trial Implementation, 2017)] (promulgated by the People's Government of Guizhou Province, Dec. 1, 2017) [http://www.guizhou.gov.cn/xwdt/djfb/201712/t20171215\\_1085884.html](http://www.guizhou.gov.cn/xwdt/djfb/201712/t20171215_1085884.html) (last visited on Dec. 11, 2018).

113. See Reform Plan, *supra* note 72, part VI-5.

114. Eg. Implementation Plan for Reform of Compensation System for Ecological Environment Damage in Anhui Province,-- *supra* note 81; eg. Implementation Plan of Pilot Reform of Compensation System for Ecological Environment Damage in Guizhou Province, *supra* note 92.

departments (for example, an administrative penalty has been completed), or pending cases handed over by the Central Leading Group for Inspection Work<sup>115</sup> or the Central Environmental Supervision Teams;<sup>116</sup> b) cases which have considerable social influence in the locality, that have been handed over to the related local departments or intervened in by social organizations, and have been or will be brought into environmental public interest litigation/criminal litigation; or c) other pending cases with local features.<sup>117</sup> None of the above cases are representative of historical environmental damage, but instead cover rather the environmental pollution and ecological destruction that has recently occurred or is already being handled by local governments.<sup>118</sup> This means that, on one hand, the liability of parties in these EED cases is relatively clear, and there is no situation where the liability is difficult to determine; while on the other hand, the scope of liability for some parties is still narrow, and is currently limited to the polluter and the destroyer which resulted in the EED. The relationship between the multiple liable parties is relatively clear, although not as extensive as the potentially responsible parties (PRPs) stipulated in CERCLA.<sup>119</sup> However, in the early stage of the reforms, the above-referenced

---

115. The Central Leading Group for Inspection Work (Chinese: 中央巡视工作领导小组) is a coordination body set up under the Central Committee of the Communist Party of China to manage party disciplinary inspections nationwide. See Unique Chinese Words, CHINA, [http://guoqing.china.com.cn/2016-03/02/content\\_38317556.htm](http://guoqing.china.com.cn/2016-03/02/content_38317556.htm) (last visited on Feb. 23, 2019).

116. Also known as the Central Committee of the Communist Party of China Environmental Protection Supervision Committee (Chinese: 中共中央环境保护督察委员会), launched in early 2016 by the Chinese Central Government with the participation of the relevant leaders of the Commission for Discipline Inspection of the Central Committee of the CPC and the Organization Department of the Central Committee of the CPC. It is set up for the environmental protection supervision directly aims to the Party committees and governments of provinces (autonomous regions and municipalities directly under the Central Government) and their relevant departments on behalf of the Party Central Committee and the State Council. It had covered all the 31 provincial regions of the Chinese mainland by the end of 2016. Huanjing Baohu Ducha Fang'an Shixing (环境保护督察方案试行) [Environmental Supervision Plan for Trial Implementation] (promulgated by 14<sup>th</sup> Meeting of Central Leading Group for Comprehensively Deepening Reforms, July 1, 2015).

117. For example, Hunan province prefers to give priority to addressing the EED caused by the mine collapse. Of the cases reported to the former Minister of Environment Protection, 3/4 were about mine collapse.

118. As mentioned earlier, these cases may be at the stage of investigation, or have been imposed administrative penalties, or are in judicial proceedings. Except for the Wangjiapeng coal pit water inflowing incident in Hunan province, the pit was closed by the local government in accordance with the law before the damage occurred. The local government remediated the EED (more than 6 million yuan) with financial budgets.

119. See 42 U.S.C.A. § 9607 (West, Westlaw through Pub. L. No. 116-65) (There are four classes of liable parties in CERCLA, including (1) current owners and operators of a facility, (2) past owners and operators of a facility at the time hazardous wastes were disposed, (3) generators and parties that arranged for the disposal or transport of the hazardous substances, and (4) transporters of hazardous waste that selected the site where the hazardous substances were brought.)

China's decision may be based on multiple considerations. For example, at the beginning of the system reform, the entire institutional framework is still in the process of exploration and local governments are not skilled in such claims. Therefore, those historical environmental damage cases with unknown liable parties or complex liability relationships were suspended at first. However, policy makers have realized this problem, so a hint has been hidden in the Reform Plan, which stipulates that "all regions can expand

arrangement is propitious to the local governments' ability to launch the claim work step by step, from simple to complex, which is conducive to reducing the difficulty of the system exploration and accumulating more case experience. Actually, when more localities can launch their EED claims, the overall system is given more cases to derive precedent and future guidance from, as proved by a simple fact that the EED reform has a three-stage design.<sup>120</sup>

*(2) The potential monetary costs of restoration and compensation for EED are massive*

The purpose of the EED Compensation System in China is to enforce the principle of "polluter pays," that is, to transform the previous government-funded clean-up and restoration of the damaged ecological environment into the mode of liable parties pay, and to compensate the state for the damaged natural resources and ecosystem services. After sorting out 27 cases reported to the former Ministry of Environment Protection by seven pilot regions in Jilin, Guizhou, and others during the pilot period (data update to Feb. 2018), it was found that only 6 cases with remediation/compensation amounts less than 1 million yuan were reported; the remaining cases were in the range of millions to tens of millions, or even hundreds of millions (see Figure 5). Additionally, in two of the cases, local governments were unable to restore or remediate the environmental degradation due to liable parties' inability to pay for the damage.<sup>121</sup> Those huge amounts of the compensation are probably attributable to the following: first, the central government requires local governments to report the minimum number of cases per year at the pilot stage, and the applicable scope of the EED claim is restricted by the Reform Plan with labels like "large," "severe" and "key area." Therefore, local governments usually give priority to the selection of severe and typical damage cases to meet the requirements of the central government for the quantity and quality of cases, demonstrating that they are actively addressing environmental problems in their jurisdiction with new methods. Second, those cases with less damage to the ecological environment can be remedied by traditional administrative means used in the past, while the compensation for EED, as a new system, is relatively complex and immature. It is unnecessary to use limited administrative resources to make claims for these small cases through such a complex system.

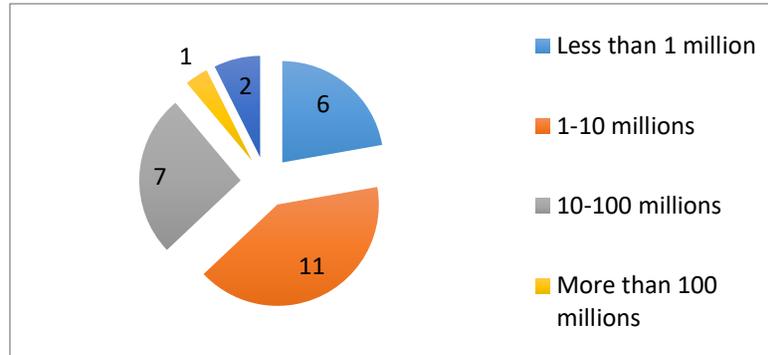
---

the scope of liable parties for ecological environmental damage according to the practice needs and propose relevant legislative proposals."

120. *Pilot Plan*, *supra* note 4.

121. The cases include Wangjiapeng coal pit water inflowing incident and Environmental pollution incidents of the illegal Lead and Zinc Concentrator (Xinyi Town, Lanshan County) in Hunan province.

Figure 5: Statistics of the amount of compensation for EED and the number of cases during the pilot reform period in seven provinces (and municipalities directly under the Central Government) such as Jilin (Unit: case/yuan)



### (3) Legal support for the EED reform falls short

Local governments of China have explored many system implementation methods, but the procedural rules related to the EED system have yet to be adopted, requiring follow-up by central legislation in the future.<sup>122</sup> During the previous three-year EED reform period in China (2016-2018), local governments have achieved some phased results through continuous exploration such as: creating a more holistic scope of claimants, negotiating before litigating, and setting up a special account for compensation. The above are suggestions for improvement proposed by local governments to the central government after practice. Meanwhile, the first batch of local governments participating in the pilot projects have formulated “measures for fund management,” “methods for consultation,” and “methods for damage identification and assessment”<sup>123</sup> in line with the needs and environmental damages associated with their respective region. This provides valuable practical experience for the central government and other subsequent trial provinces. However, in general, the current EED Compensation System still lacks significant procedural rules, especially in the realm of judicial procedure. For example, in some provinces, the settlement reached after successful negotiation is sent to the Court for judicial confirmation in order to grant both parties (mainly the government claimants) the right to apply the court for mandatory enforcement.<sup>124</sup> However, the current judicial

122. See Anhuisheng et al., *supra* note 81; Guizhousheng et al., *supra* note 92.

123. See *Regulations on Compensation for Ecological Environment Damages in Guizhou Province (Trial)*, *supra* note 110.

124. See Zuigao Renmin Fayuan Fabu Renmin Fayuan Baozhang Shengtai Huanjing Sunhai Peichang Zhidu Gaige Dianxing An’li (最高人民法院发布人民法院保障生态环境损害赔偿制度改革典型案例) [Model Cases of Guaranteeing the Reform of the System of Compensation for Ecological and Environmental Damage by the People’s Courts Published by the Supreme People’s Court] (promulgated by the Supreme People’s Ct., Jun. 5, 2019, effective Jun. 5, 2019), SUP. PEOPLE’S CT. <http://en.pkulaw.cn/display.aspx?id=58cfc817b08e7775bdfb&lib=law&SearchKeyword=&SearchCKeyword=%d7%ee%b8%df%c8%cb%c3%f1%b7%a8%d4%ba%b7%a2%b2%bc%c8%cb%c3%f1%b7%a8%d4%ba%b1%a3%d5%cf%c9%fa%cc%ac%bb%b7%be%b3%cb%f0%ba%a6%c5%e2%b3%a5%d6%c6%b6%c8%b8%c4%b8%ef%b5%e4%d0%cd%b0%b8%c0%fd>, (last visited \_\_\_).

confirmation only applies to the agreement between the two parties through the mediation of the “People’s Conciliation Committee,” and does not include the situation where the government directly reaches an agreement with the liable party.<sup>125</sup> The lack of relevant adjudication rules is obvious. China’s laws, regulations, and judicial interpretations in force have made no provisions for the new EED litigation, and current EED cases are currently heard under existing civil procedures. However, what kind of doctrine of liability fixation should be applied? What are the forms of liability for EED? How to coordinate the relationships between EED litigation and other exist litigation in China? These issues all require a legislative response from the central authorities.

### **B. Future Steps: Systematic Legislation for the EED Compensation System**

As mentioned above, all the provinces in mainland China are actively carrying out the trial work of this EED Compensation System. While they have made many useful explorations and accumulated experience, they also exposed the primary shortcomings<sup>126</sup> of the EED Compensation System in substantive law and procedural law, which have hindered the construction and improvement of the EED Compensation System. At present, in addition to the Marine Environmental Protection Law,<sup>127</sup> which stipulates that those liable for causing damage to the marine ecological environment should provide compensation, there are legislative gaps in the provisions of the current laws of China concerning the claiming authority, claimants, suitable scope, negotiation and litigation procedures of the EED claim.

125. See *supra* note 42, at art. 194 (To apply for judicial confirmation of a mediation agreement, both parties to the mediation agreement shall, in accordance with the People’s Mediation Law and other laws . . . ); See also

Renmin Tiaojie Fa (人民调解法) [People’s Mediation Law] (promulgated by Nat’l People’s Cong., Aug. 28, 2010, effective Jan. 1, 2011), art. 7 and 33, 2010 STANDING COMM. NAT’L PEOPLE’S CONG. GAZ.,

[\(http://www.cspil.org/Uploadfiles/attachment/Laws%20and%20Regulations/%5ben%5dguojifalvwenjian/PeoplesMediationLawofthePeoplesRepublicofChina.pdf\\_\(last visited \)](http://www.cspil.org/Uploadfiles/attachment/Laws%20and%20Regulations/%5ben%5dguojifalvwenjian/PeoplesMediationLawofthePeoplesRepublicofChina.pdf_(last%20visited%20)) (According to the People’s Mediation Law (2010), Article 7: People’s mediation commissions are mass-based organizations legally formed to settle disputes among the people. Article 33: After a mediation agreement is reached upon mediation by a people’s mediation commission, when necessary, the parties concerned may jointly apply to the people’s court for judicial confirmation within 30 days after the mediation agreement becomes effective, and the people’s court shall examine the agreement and confirm its effect in a timely manner. The law also says that agreements reached in the mediation procedure are legally binding. After the people’s court confirms the effect of the mediation agreement, if one party concerned refuses to perform or fails to perform it adequately, the other party may apply to the people’s court for enforcement.)

126. China’s current legal system concerning compensation for EED consists of civil law, tort law, environmental protection law and other separate laws in the fields of water, land, air . . . . Although the 2014 EPL establishes the principle of liability for damage (origins from the polluter pays principle), it still stipulates that environmental pollution and ecological damage should bear tort liability. In other words, when the ecological environment and its interests are damaged, it can only realize indirect relief by means of the damage of personal or property rights and interests in civil rules. This approach cannot reflect the value objective of compensating for the damages to the environment itself.

127. See 2017 MEPL, *supra* note 51 (for any damages caused to marine ecosystems, marine aquatic resources or marine protected areas that result in heavy losses to the State, the interested department empowered by the provisions of this Law to conduct marine environment supervision and control shall, on behalf of the State, claim compensation to those held responsible for the damages.)

According to Chinese Legislation Law,<sup>128</sup> the State Council, the Supreme People's Court, and the Supreme People's Procuratorate, can promulgate administrative regulations and judicial interpretations respectively. However, none of them can independently complete such a comprehensive system. . promulgate administrative regulations and judicial interpretations, withoutThe construction of EED Compensation System is an exclusive matter that must be stipulated in the authorization of the laws enacted by the NPC (National People's Congress) and its Standing Committee. In this context, it is necessary to initiate legislation and revision work around the EED Compensation System and establish basic rules, legalizing the reform. These are not only the crux of ensuring the continuous and stable reform, but also the physical requirement and essential task to further deepen the construction of the ecological civilization system.

### 1. Different Problem-Solving Paths

At present, most of the Chinese scholars, policymakers, and reform implementers have adopted a more positive attitude towards addressing the lack of statutes for the EED reform. However, opinions are divided on the specific solutions – amending the existing law or enacting the new law.<sup>129</sup>

Advocates for amending the existing law argue that the absence of substantive rules can be filled through amending the tort law because of the similarities between the system's national “private interest” feature, and the traditional features of tort law, although China's existing laws do not directly stipulate the provisions of EED Compensation System. Moreover, China is currently formulating a Civil Code,<sup>130</sup> and tort liability is one of the chapters that is still in the

128. See Lifa Fa (立法法) [Legislation Law] (promulgated by the Standing Comm. Nat'l People's Cong., Mar. 15, 2000, effective July. 1, 2000, amended Mar. 15, 2015) 2000 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ., (“The following matters shall only be governed by laws: . . . . (8) The basic system of civil matters. (10) Litigation and arbitration systems. (11) Other matters which must be governed by laws developed by the National People's Congress and its Standing Committee.”)

(In addition, the environmental liability insurance, as a kind of the socialized sharing mechanism of compensation funds, can only be regulated by laws.)

129. See e.g., ZHANG BAO, *supra* note 29; see also Ma Teng (马腾), *Woguo Shengtai Huanjing Qinquan Zeren Zhidu Zhi Goucheng (我国生态环境侵权责任制度之构建)* [*The Construction of Ecological Environment Tort Liability System in China*], 35 *Fashang Yanjiu (法商研究)* [STUD. IN L. & BUS.] 114 (2018); Zhang Zitai (张梓太) & Li Chenguang (李晨光), *Guanyu Woguo Shengtai Huanjing Peichang Lifa De Jidian Sikao (关于我国生态环境损害赔偿立法的几点思考)* [*Some Problems about Legislation of Compensation for the Ecological Damage in China*], *Nanjing Shehui Kexue (南京社会科学)* [NANJING J. OF SOC. SCI.] 94 (2010); Wang Jinnan, et al., (王金南) 等, *Jiakuai Jianli Shengtai Huanjing Sunhai Peichang Zhidu Tixi (加快建立生态环境损害赔偿制度体系)* [*Accelerating the Establishment of Compensation System for Eco-environmental Damage*], 44 *Huanjing Baohu (环境保护)* [ENVTL. PROTECTION] 26 (2016).

130. The codification of Chinese's civil law restarted in 2012 with the 18th congress of the Communist Party and we are now expecting a Civil Code to be adopted in 2020. The current codification movement is based on the General Principles of Civil Laws (“GPCL”), which were adopted in 1986. The Draft is composed of 1,034 articles and divided into 6 sections, which are Real Rights, Contracts, Personality Rights, Marriage and Family, Inheritance and Tort Liability, which is based on the existing GPCL, the Real Right Law, the Marriage Law and other regulations.

drafting stage.<sup>131</sup> This provides an opportunity to add a section on the EED Compensation System in that chapter to address the system design problems.<sup>132</sup> Alternatively, there is also a view that the above rules can be established by amending some provisions of the Environmental Protection Law.<sup>133</sup>

Advocates for new legislation believe that the EED Compensation System, in addition to its characterization of the private interest, has an apparent public interest attribute.<sup>134</sup> According to the continental legal tradition,<sup>135</sup> it is inappropriate to insert a system with both public and private interests into the tort law which belongs to purely private law.<sup>136</sup> Additionally, the EED compensation system involves the protection of different natural resource elements and corresponding ecosystems.<sup>137</sup> The restoration and claim of damaged environment need to be overall considered that the damaged natural elements (e.g., water, land, and forests) and the ecosystems should be conceived as a whole, and their mutual influence and relationship between them should also be fully noticed,<sup>138</sup> when the governments carry out works including claims, liability assignment, and restorations. As a result, the system should not continue the decentralized environmental legislation pattern adopted by China in the past. For example, the water law only regulates water pollution, the soil law only regulates land pollution, and the atmospheric law only deals with air pollution.<sup>139</sup>

## 2. Systematic Legislation as a Feasible Method to Construct the New

---

131. See Lv Zhongmei (吕忠梅) & et al., *Lyse Yuanze zai Minfa Dian zhong de Guance Lungang (绿色原则”在民法典中的贯彻论纲)* [Implementation Outline of the “Green Principle” in the Civil Code], *Zhongguo Faxue (中国法学)* [CHINA LEGAL SCI.] 5, 26 (2018).

132. See Lv Zhongmei (吕忠梅) & Liu Chao (刘超), *Tuozhan Minfa Dian Qinquan Zeren Bian Huanbao Gongneng (拓展民法典侵权责任编环保功能)* [Expanding the Environmental Protection Function of Tort Liability Chapter in Civil Code], *Jiancha Ribao (检察日报)* [PROCURATORIAL DAILY], July 30, 2018, at 003.

133. See Lv Zhongmei, *Implementation Outline of the “Green Principle” in the Civil Code*, *supra* note 129; See also 2014 EPL *supra* note 23.

134. Li Chenguang (李晨光), *Shengtai Huanjing Sunhai Jiuji Moshi Tanxi (生态环境损害救济模式探析——游走在公法与私法之间)* [Study on the Relief Mode of Ecological Damage—Between Public Law and Private Law], 47 *Nanjing Daxue Falv Pinglun (南京大学法律评论)* [NANJING U. L. REV.] 59, 65 (2017); Chen Haisong (陈海嵩), *Shengtai Huanjing Sunhai Peichang Zhidu de Fansi yu Chonggou (生态环境损害赔偿制度的反思与重构)* [Compensation Rules of Ecological and Environmental Damage: Revisited and Reconstructed], 66 *Dongfang Faxue (东方法学)* [ORIENTAL L.] 20, 25 (2018).

135. See Christian V. Bar *et al.*, *Principles of European Law on Non-contractual Liability Arising Out of Damade Caused to Another* 529 (2009) (Public and private law are distinct in the continental legal system. Compensation for EED is actually at the boundary between public law and private law).

136. See Li Chenguang, *supra* note 132.

137. See Wu Weiyu, *supra* note 36 and 103.

138. See Zhang Zitai & Wu Weiyu, *supra* note 55.

139. Its drawbacks lie in the fragmentation, overlap and even contradiction of the current environmental legal system. At the same time, it divides the public power of environmental protection into many departmental powers, which leads to the alienation of power and the mutual prevarication and competition among departments. Lv Zhongmei (吕忠梅), *Jiang Huanjing Fadian Bianzhuang Naru Shi’san Jie Quanguo Renda Lifa Jihua (将环境法典编撰纳入十三届全国人大立法计划)* [Incorporating the Compilation of the Environmental Code into the Legislative Plan of the 13th National People’s Congress], 2017 *Qianjin Luntan (前进论坛)* [FORWARD FORUM] 50, 50-51 (2017).

### System

Adopting a pattern of systematic and specialized legislation is the best path forward for China's EED system. As mentioned earlier, amending the existing laws may still trigger conflicts between the system and the values of environmental law and civil law in traditional law. However, legislation for the EED Compensation System involves the devising of substantive rules (e.g., liability mechanisms, claimants' responsibility, fund management, supervision or monitoring for reinstatement) and procedural rules (e.g., compensation litigation, negotiation), which cannot be clarified through amending the Environmental Protection Law or the Civil Code (tort law). It is necessary to enact a systematic and special Law on Compensation for Ecological and Environmental Damage to provide legal support for the system construction, instead of amending several different existing laws and regulations.

The first step is to design the legislative structure. The core rules for EED Compensation System shall be devised through the law, and then the implementation rules can be formulated on the actual needs of localities to continuously improve the system. The above pattern may require relatively higher legislative costs (including the cycle, technology, manpower, material resources), but it can eliminate the adverse impacts of decentralized legislation and establish a systematic EED Compensation System. However, considering the urgency of this legislation,<sup>140</sup> the "Law on Compensation for EED" can give priority to the establishment of the core substantive and procedural rules. Other more specific rules can be devised through subsequent supporting administrative regulations and relevant judicial interpretations.

Secondly, according to the features of EED, legislative priorities shall focus on the design of core legislative content. EED is often characterized by high technology, comprehensiveness, and complexity, as well as having a cumulative effect,<sup>141</sup> which makes the damages it more concealed in result identification and challenging to hardly detectable with by general sense. Additionally, EED may also have a prone to chain reaction on the local ecosystem, which will result in severe ecological losses and a high cost of restoration.<sup>142</sup> Therefore, it is necessary to take the above factors into consideration in promulgating the Law on Compensation for EED and to take "preventing the occurrence of damage and restoring the damaged ecological environment" as one of the legislative objectives. To date, the Environmental Law Research Team of Fudan University<sup>143</sup> has already drafted a "Law on Compensation for Ecological and environmental Damage" and submitted it to the Ministry of Ecology and Environment. The final legislative model and provisions of EED system will be decided around 2020.<sup>144</sup>

---

140. According to the schedule of "Reform Plan," the legislature needs to take actions before the end of 2020.

141. Ji Linyun (季林云) & Han Mei (韩梅), *Huanjing Sunhai Chengfa Xing Peichang Zhidu Tanxi (环境损害惩罚性赔偿制度探析) [Analysis of the Environmental Damage Punitive Indemnification System]*, 45 *Huanjing Baohu (环境保护) [ENVTL. PROTECTION]* 52. 55 (2017).

142. Zhang Zitai & Li Chenguang, *supra* note 127.

143. Professor Zitai Zhang leads the team, and the author is one of the researchers in the team who have participated in the whole research project and the Law's drafting process.

144. *supra* note 4.

Based on the provisions of that draft law, China's legislation on EED Compensation System should give priority to the following aspects:

**a. Legislative Framework and Principles**

*Law on Compensation for EED (draft version)*

*Chapter I "General Principles"*

*Chapter II "Investigation, Identification, Evaluation, and Consultation"*

*Chapter III "Compensation Litigation"*

*Chapter IV "Implementation Supervision and Fund Management"*

*Chapter V "Supplementary Provisions"*

As illustrated by the above framework, the legislative priorities of this law lie in the design of liability mechanisms, dispute settlement mechanisms, and finance management. In other words, the objective of the new laws is to assign liability scientifically and reasonably; to proceed the claims for EED through devising the diversification dispute resolving mechanism (including negotiation, litigation, and even arbitration) with their own characteristics, complementarity and alternatives; to realize of the principle of "polluter pays;" and to guarantee the restoration of ecological environment through rationalizing revenue and expenditure of funds and introducing third-party socialized remedies. Meanwhile, the legislation should also establish investigations, appraisal assessments, litigation rules, and supervision systems of implementation and restoration around the above core mechanisms. In this way, the basic framework of the EED Compensation System can be included more thoroughly, and the efficiency of legislation can be improved without being affected by overly specific mechanisms. This arrangement is in line with China's legislative habit of having a framework design for a particular issue from the law level. Presumably, there will be specific provisions in the regulations to be promulgated by the State Council to make the previous legal framework more operational and to fill the holes left by the legislature.<sup>145</sup>

---

145. For example, the newly revised Environmental Protection Law was promulgated on April 4, 2014, but the articles are general. In order to make the scope of application and implementation procedures of various systems in the law more operational, the former Ministry of Environmental Protection subsequently promulgated four supporting measures, including Huanjing Baohu Zhuguan Bumen Shishi An'ri Lianxu Chufa Banfa (环境保护主管部门实施按日连续处罚办法) [Measures for the Implementation by Competent Environmental Protection Departments of Consecutive Daily Penalties] (promulgated by the Ministry of Environmental Protection, Dec.19, 2014, effective Jan. 1, 2015); Huanjing Baohu Zhuguan Bumen Shishi Chafeng, Kouya Banfa (环境保护主管部门实施查封、扣押办法) [Measures for the Implementation of Sealing-up and Impounding by Competent Environmental Protection Departments] (promulgated by the Ministry of Environmental Protection, Dec.19, 2014, effective Jan. 1, 2015); Huanjing Baohu Zhuguan Bumen Shishi Xianzhi Shengchan, Tingchan Zhengdun Banfa (环境保护主管部门实施限制生产、停产整治办法) [Measures for the Implementation by Competent Environmental Protection Departments of Limiting and Halting Production for Remediation] (promulgated by the Ministry of Environmental Protection, Dec.19, 2014, effective Jan. 1, 2015); Qiye Shiye Danwei Huanjing Xinxi Gongkai Banfa (企业事业单位环境信息公开办法) [Measures for the

The following vital principles must also be embodied in the legislation:

***Precautionary Principle***

According to the Principle 15 of the Rio Declaration on Environment and Development (1992), “[i]n order to protect the environment the Precautionary Approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”<sup>146</sup> EED involves complex identification and assessment, high cost and time requirements for restoration, long remedy cycles, and even some irreversible damages. Prevention and rehabilitation (governance) are two stages of environmental protection.<sup>147</sup> Emphasizing the obligation of damage prevention—i.e., that liable parties should do their utmost to eliminate and prevent the risk of ecological environment damage—the government, enterprises, institutions, and other organizations should establish and improve the risk emergency response systems and take appropriate measures when environmental emergencies occur.

***Restoration Priority Principle***

The liable parties shall give priority to the restoration of the damaged environment. If the damage cannot be repaired, monetary compensation shall be applied to replace the direct restoration.<sup>148</sup> Although the Law of Compensation for EED uses the name “Compensation,” its primary purpose is to restore the damaged environment, maintain and improve the quality of the environment, and protect and enhance the functions of the ecosystem.<sup>149</sup> For the EED Compensation System, pecuniary reparation is only an alternative form of liability, which is used as an exception when the restoration cannot be realized.<sup>150</sup> Such a design not only benefits to focus on restoring the damaged environment directly, but it also alleviates the risks that liable parties (enterprises) may suffer from bankruptcy through paying a large amount of restoration capitals and punitive compensation at the same time.<sup>151</sup>

***Classified Liability Principle***

This principle requires legislation to define the liability of the responsible parties with the comprehensive consideration of EED’s features. According to the requirements of the Reform Plan, although the EED Compensation System is based

Disclosure of Environmental Information by Enterprises and Public Institutions] (promulgated by the Ministry of Environmental Protection, Dec.19, 2014, effective Jan. 1, 2015).

146. UN Doc. A/CONF.151/26 (vol. I).

147. Zhu Xiao (竺效), Lun Shengtai Sunhai Zonghe Yufang Yu Jiuji De Lifa Lujing (论生态损害综合预防与救济的立法路径) [*On the Legislation Blue Print of Integrated Prevention and Remedy*], *Bijiao Fa Yanjiu* (比较法研究) [J. of COMP. L.] 15 (2016).

148. *supra* note 71, at Part. II.

149. This can be proved by the Pilot Plan, *supra* note 4. “The purpose of EED reform is to urge the liable parties to remedy the damaged environment. Monetary compensation shall be applied to replace the remediation, where the damage to the ecological environment cannot be repaired.”

150. Zhang Zitai & Li Chenguang, see *supra* note 127.

151. There is a view that the punitive indemnification can be introduced in some of the environmental tort cases, but whether it is applicable in the EED cases remains to be further considered. See Ji Linyun & Han Mei, *supra* note 139.

on the path of claiming private interests, the provisions of the Tort Law<sup>152</sup> and Civil Procedure Law cannot be simply applied when imputing responsibility due to the particularity of the EED Compensation System. The legislation should consider the system's dual attributes of public and private law and the status gap between the claimants (the governments) and the liable parties in order to distinguish the liabilities' distribution under different circumstances, and to achieve the rebalancing of fairness and justice.

***Public Participation Principle***

EED not only injures the national interests, but also public environmental interests. Legislation should integrate information disclosure and public participation into the EED Compensation System to ensure the EED remedy and compensation can be solved in a fair, just and open environment, through widely soliciting and absorbing social opinions, accepting public supervision, and introducing third-party participation.

**b. Liability Mechanism**

Based on the private-interest attribute of the EED Compensation System, the design of its liability mechanism can build on the traditional civil liability, with necessary adjustments and innovations according to practical needs. The legislative creation of the liability mechanism for EED compensation system includes two key elements—imputation principle and legal liability forms.

***The doctrine of liability attribution of EED.*** Rehabilitation of damaged ecological environment is essential, but liability should be reasonably attributed. Otherwise, it is not conducive to the realization of the obligation of restoration and compensation and may impose an excessive burden on the liable parties. Commonly, EED involves two categories: the damage caused by (cumulative) environmental pollution and destruction or emergency environmental damage.<sup>153</sup> The former is usually regulated by the existing environmental protection institutions (such as cleaner production, environmental standards, resource taxation, and fees), emphasizing the illegality of the damage behavior in liability constituents. These actors are not liable for their lawful emission of pollutants. The latter involves risk-taking issues. Environmentally-risky industry operators should bear the liability for damages when damage occurs, even in the absence of violations, to urge them to be aware of risk prevention and achieve social equity. In other words, the State has the corresponding regulatory responsibility for the utilization of natural resources and the protection of reliance interest. The Law on Compensation for EED should stipulate that only the EED caused by high-risk hazardous activities can apply the principle of liability without fault/strict liability, and clarify the corresponding exemptions.

***The form of liability.*** At present, the feasible liability forms in practice include ecological restoration and pecuniary reparation. Environmental restoration liability requires liable parties to remove pollutants from the damaged environment through various artificial means (e.g., Biofilm Purification Technology), to help

---

152. Qinquan Zeren Fa (侵权责任法) [Tort Law] (promulgated by Nat'l People's Cong., Dec. 26, 2009, effective July. 21, 2010), art. 65-68, 2009 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ.

153. MINISTRY OF ENVTL PROTECTION, *supra* note 88.

strengthen the self-purification and resilience of ecosystems and environment, and to “restore” relevant damaged ecosystem services to the same level as their original capacity.<sup>154</sup> Its specific manifestation is flexible, and the situation in which environmental restoration liability can be applied is when pollution and destruction behavior has not caused permanent damage to the ecosystem. Pecuniary reparation liability is normally aimed at protecting the value and interests of victims, which embodies the compensation function.<sup>155</sup> If the EED is roughly divided into permanent damage and restorable damage in line with the different damage result, the case of permanent damage and partial irreparable damage can be remedied by pecuniary reparation. Since the local ecosystems, under the current level of human science and technology, have completely or partially lost the ability to provide services to the public, the damaged ecological interests can only be compensated financially.<sup>156</sup> Moreover, regardless of the extent to which the damaged ecological environment can be restored, at least during the recovery period, “there are losses or reductions of the ecological services and functions to the public or other ecosystems.”<sup>157</sup> These “interim losses” can only be compensated through pecuniary reparation/monetary compensation. In summary, the application of liability in EED should generally follow the principle of environmental restoration liability, except for pecuniary reparation.

### c. Dispute Settlement Mechanism

The two types of dispute resolution methods that have been incorporated into the system reform process are negotiation and litigation. First, *negotiation*, as the highlight of the Reform Plan, is a way to deal with disputes of EED cases designed following the ideas of civil dispute settlement: equality, voluntary, efficient and openness.<sup>158</sup> In this regard, the “Law on Compensation for EED” should clarify its necessary procedures and rules. After damages occur, the claimants (governments) can self-investigate and pre-evaluate the EED to make an initial determination about whether the situation should be restored or compensated and identify the liable parties. Then they can negotiate with the liable parties on the specific issues and facts, determining the extent of damage, the start time and duration of restoration, the liability forms, the technical feasibility of the restoration plan, the optimization of cost-effectiveness, the compensation ability of the liable parties, and the feasibility of third-party remedy. If both parties reach an agreement without additional appraisal, they should promptly disclose the results of the consultation to the public for comments. However, if the two sides have significant controversies, they should promptly entrust professional institutions to conduct appraisal and assessment of EED and conduct further negotiations according to the assessment report. If they are still unable to reach an agreement, the claimants should promptly initiate the lawsuit of compensation for EED.

---

154. Wu Peng, *infra* note 162.

155. Li Chenguang, *supra* note 132.

156. *The Reform Plan*, *supra* note 72, part II-2.

157. *Supra* note 88.

158. Zhang Zitai & Xi Yue, *infra* note 159.

Secondly, *the lawsuit claiming EED*, as compared with the negotiation method, belongs to a final dispute resolution, and has higher processing efficiency when the parties have greater divergences.<sup>159</sup> Unlike traditional environmental tort litigation, this new type of litigation includes private interest litigation and public interest litigation,<sup>160</sup> with a specific particularity in the litigation rules. To this end, the “Law on Compensation for EED” should set up a lawsuit mechanism for EED in which the private interest litigation initiated by the governments or claimants is the main body, and the public interest litigation initiated by the relevant eligible social organizations (NGOs) is the supplement.<sup>161</sup> Second, setting the notice process of public interest litigation is necessary in the new law. Social organizations intending to initiate civil public environmental interest litigation for EED should give notice to the claimants and consult the local governments in charge of EED claim affairs beforehand. If the claimants decide to initiate an action by themselves, the social organization may not bring a repeat lawsuit; when the claimants are delayed to perform their duties, the eligible social organization may initiate the public interest lawsuit.<sup>162</sup> Additionally, it is worth mentioning that arbitration has finality as well, as the procedure associated with arbitration is more flexible and efficient than that of litigation. In the future, it can be considered as the third dispute resolution path between negotiation and litigation as well.<sup>163</sup>

#### d. Fund Management

From the practice in Pilot Stage, most of the EED remediation projects have the common characteristics of large volume, extensive involvement, and huge financial needs.<sup>164</sup> The establishment of an efficient financial mechanism is the core guarantee for the smooth operation of the EED Compensation System. In this regard, the “Law on Compensation for EED” should focus on two aspects: funding guarantee and fund management. As far as the financial guarantee is concerned, it is mainly aimed at the issue of the fund sources for remediating and compensating the EED, especially when the liable parties are unknown or unable to bear the corresponding

159. Zhang Zitai & Wu Weiyu, *supra* note 55.

160. Under the EED Compensation System, the governments can bring a similar “private interest lawsuit” on behalf of the national interest, while the Procuratorates and NGOs can initiate public interest litigation on behalf of social interest.

161. Zhang Zitai (张梓太) & Xi Yue (席悦), Shengtai Huanjing Sunhai Peichang Jiufeng Chuli Jizhi Tanxi (生态环境损害赔偿纠纷处理机制探析), *Discussion on Dispute Settlement Mechanism of Compensation for Eco-environmental Damage*, Zhongguo Huanjing Bao (中国环境报), CHINA ENT. NEWS, Dec. 21, 2017, at 003.

162. This can be a civil public interest lawsuit filed against the liable parties for restoration and compensation directly, or the administrative public interest lawsuit filed for nonfeasance in cases concerning claimants’ EED claim action.

163. See Wang Lan (王岚), Lun Shengtai Huanjing Sunhai Peichang de Zhongcai (论生态环境损害赔偿的仲裁) [*Discussion on Arbitration of Compensation for Eco-environmental Damage*], 2017 Jiangnan Luntan (江汉论坛) [JIANGNAN TRIB.] 128, 128-133 (2017). (However, there is no legislative plan to add arbitration as one of the dispute solutions of the EED Compensation System.)

164. Wu Peng (吴鹏), Shengtai Xiufu Falv Zeren Zhi Pianjian Yu Xinshi (生态修复法律责任之偏见与新识), *Prejudice and New Ideas of Legal Liability for Ecological Restoration*, Zhongguo Zhengfa Daxue Xuebao (中国政法大学学报), J. of CUPL, 108 (2017).

liability. Specific options include environmental liability insurance,<sup>165</sup> an EED compensation fund,<sup>166</sup> and financial guarantees. In other words, the remediation and compensation funds chiefly consist of insurance proceeds, enterprise compensations, risk guaranty fund, and industries funds.

Two types of funds are included in fund management: remedy and compensation. The former is the capital for restoring the damaged ecological environment, and the latter includes the compensation for the “interim losses” and the permanent losses of ecosystems, paid by the liable parties.<sup>167</sup> In the new law, it is necessary to clarify the basic principles for the management and use of EED compensation. Priorities should include the division of the authority for funds using the establishment of management institutions (or foundations), and an article stipulating that compensation funds can only be used for the alternative restoration of EED. The rest of the legislative contents concerning fund management can be further devised in follow-up supporting regulations or assigned to the local authorities to address. These contents can include: (1) the methods of expenditure for investigation, appraisal, emergency treatment and restoration of EED, (2) payment restrictions and procedures under the third-party rehabilitation and their supervision, (3) the pattern of capital gains, (4) the budgeting of funds, and (5) funds expenditure and supervision mechanism.

### CONCLUSION

The EED Compensation System is a landmark exploration in China’s environmental protection history. Its successful establishment will contribute to changing the situation in China where governments remediate the ecological environment damaged by the enterprises, and it can realize the principle of “polluter pays” stipulated in the 2014 EPL.<sup>168</sup> In analyzing the design concept and content of the system, it is not difficult to recognize aspects of the NRD and the CERCLA in the United States, such as Negotiation/Settlement, PRPs, and fund management. However, the EED Compensation System has its unique Chinese features.

On the one hand, the unique features are determined by the national conditions. For example, state-ownership of natural resources in China theoretically differentiates the EED system from the NRD established by the United States under the public trust theory. On the other hand, China has also developed unique contents in its institutional practice, such as mandatory negotiating first before bringing a lawsuit, opening the special fiscal account for EED compensation fund and the court’s judicial confirmation of the negotiation agreement. These above facts show that while China can learn from the experience of the United States, it should also be

---

165. Taking insurance as an example, it has the effect of decentralizing the obligation of “compensation,” which can avoid the embarrassment of insufficient actual “compensation” of the compensating obligor or the disaster of its extinction to a certain extent. Specifically, in legislation, it can be stipulated that units and individuals engaged in production and operation activities with high risks to the ecological environment should ensure the relevant compulsory environmental liability insurance, to share the risk of restoration or compensation for ecological environment damage caused by unexpected environmental events.

166. Similar to Super Fund. 26 U.S.C.A. § 9507 (2014).

167. *Supra* note 72, at VI-8.

168. 2014 EPL, *supra* note 23.

critical rather than totally accepting in choosing methods that are conducive to the development of the EED Compensation System. Given the unique features and innovations within China's new system, it would make more sense to take a legislative approach to promoting the construction and implementation of EED related mechanisms. Indeed, if China is able to effectively implement the above legislative strategies to make its new EED Compensation System as effective as possible, the country China's experience in implementing the EED Compensation System can come back to the United States in the future to promote the improvement of the NRD and the CERCLA.<sup>169</sup>

---

169. See Justin R. Pidot & Dale Ratliff, *The Common Law of Liable Party CERCLA Claims*, 70 STAN. L. REV. 191, 193 (2018). (The current CERCLA in the United States is also facing difficulties such as insufficient funds, and it is urgent to find a response strategy. For example, the EPA's financial resources and political will are in jeopardy. Congress has routinely underfunded the EPA's work cleaning up contaminated sites, and the Trump Administration has threatened the EPA with dramatic further cuts of funding and staff. Since 2007, the success of the settlement approach to CERCLA has been under threat. In the wake of some cases, PRPs faced the prospect that even if they entered a settlement with the government, they might be vulnerable to a cost recovery suit brought by other PRPs and dragged into litigation that could last years or even decades.)