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Michael G. Faure  
*Maastricht University*, [michael.faure@maastrichtuniversity.nl](mailto:michael.faure@maastrichtuniversity.nl)

Liu Jing  
*Maastricht University*, [jing.liu@maastrichtuniversity.nl](mailto:jing.liu@maastrichtuniversity.nl)

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## ARTICLE

# Compensation for Environmental Damage in China: Theory and Practice

MICHAEL G. FAURE\* & LIU JING\*\*

### I. INTRODUCTION

Many observers have pointed to the fact that the spectacular economic growth in China has come at a high price, especially concerning the environmental costs related to this growth.<sup>1</sup> There is increasing literature, both inside and outside of China,

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\* Michael Faure is a professor of comparative and international environmental law at Maastricht University, and professor of comparative private law and economics at Erasmus University Rotterdam, both in the Netherlands. At the time of writing this article he was *haiwaimingshi* at the Research Center for Law of Economics of the China University of Political Science and Law (CUPL). He is grateful to the China Ministry of Education and to the Research Center for Law and Economics of CUPL for their support. Email: michael.faure@maastrichtuniversity.nl.

\*\* Liu Jing is a postdoctoral researcher at Wuhan University, China and a guest researcher at Maastricht University, the Netherlands. Email: jing.liu@maastrichtuniversity.nl.

1. Chinese authorities estimated the costs of environmental degradation to be 12745.7 billion Renminbi (RMB) in 2008, which would represent 3.9% of the gross domestic product (GDP); the imputed costs of soil cleanup would reach 540.31 billion RMB. See [*China Has Until 2008 to Complete the Environmental and Economic Accounting Research Report*], CHINESE ACADEMY FOR ENVIRONMENTAL PLANNING (Dec. 25, 2010), <http://www.caep.org.cn/ReadNews.asp?NewsID=2761> (China). Earlier reports from the World Bank on the amount of pollution costs in China in terms of GDP were also quite alarming. They indicated that environmental damage costs were 8% of the total GDP in China. See THE WORLD BANK, CHINA 2020 CLEAR WATER, BLUE SKIES: CHINA'S ENVIRONMENT IN THE NEW CENTURY 23 (1997), available at [siteresources.worldbank.org/inteapregtopenvironment/Resources/Clear\\_Water\\_Blue\\_Skies.pdf](http://siteresources.worldbank.org/inteapregtopenvironment/Resources/Clear_Water_Blue_Skies.pdf).

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on tools available to China to fight against pollution.<sup>2</sup> Indeed, with growing economic welfare, the demand for environmental quality is increasing in China as well.<sup>3</sup>

The aim of our study is not so much to look at instruments aiming at the prevention of environmental harm, but to address the extent victims of environmental harm can be compensated in China. The concept of “victims” should be interpreted broadly to include both human victims and damage to the environment. When the environment itself is the victim, questions arise regarding the right of the government or a non-governmental organization (NGO) to ask for remedies on behalf of the environment. The goal of our study is not only to provide an insight into the “law on the books” by describing which instruments and remedies are available, but also to address “law in action,” by examining the extent to which various compensation mechanisms are indeed applied in practice. We have undertaken interviews with stakeholders in China to obtain information on the way in which environmental damage is remedied.

Our focus is on remedies for environmental harm. Even though the traditional remedy for damages resulting from environmental pollution is monetary compensation, other remedies, such as restitution, may be relevant as well. We will address both available remedies on the basis of the regulatory framework, and examine the extent to which these remedies are applied. In addition, we will formulate suggestions for reform where appropriate.

The issue of appropriate compensation for environmental damage has become a hot topic in China.<sup>4</sup> One can often hear

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2. See generally NEIL CARTER & ARTHUR P.J. MOL, ENVIRONMENTAL GOVERNANCE IN CHINA (2007); CHEN GANG, POLITICS OF CHINA'S ENVIRONMENTAL PROTECTION: PROBLEMS AND PROGRESS (2009); XIAOYING MA & LEONARD ORTOLANO, ENVIRONMENTAL REGULATION IN CHINA: INSTITUTIONS, ENFORCEMENT, AND COMPLIANCE (2000); Arthur P.J. Mol & Neil T. Carter, *China's Environmental Governance in Transition*, 15 ENVTL. POL. 149 (2006); Lan Xue *et al.*, *Environmental Governance for China: Major Recommendations of a Task Force*, 16 ENVTL. POL. 669 (2007).

3. See generally GUO X. & D. MARINOVA, ENVIRONMENTAL AWARENESS IN CHINA: FACILITATING THE GREENING OF THE ECONOMY (2011), available at <http://www.mssanz.org.au/modsim2011/D12/guo.pdf>.

about cases of environmental harm confronting the Chinese people and their environment, whereby the question of appropriate compensation often arises.<sup>5</sup> This issue is typical, given recent legislative changes in China. In December 2009, China adopted a new Tort Liability Law (TLL).<sup>6</sup> This law integrated some important principles concerning environmental liability.<sup>7</sup> In addition, sector-based laws and regulations—in some cases equally aimed at environmental liability—have recently been published or are under consideration for adoption.<sup>8</sup> Even though environmental insurance markets are not yet that well developed in China, environmental insurance products are becoming increasingly available on the Chinese market.<sup>9</sup> Some of these insurance products are strongly promoted by the government and aim at compensating environmental harm.<sup>10</sup> Strikingly, the only domain in which compensation seems to work better—not only on paper, but also in practice—is cases involving marine oil pollution in which international conventions have played an important role.<sup>11</sup> We will use the economic analysis of the law to look at the effectiveness of the compensation for environmental damage in China. Moreover, we will compare compensation instruments issued either in the United States or in Europe with the situation in China in order to provide a comparative perspective.

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4. Adam Moser & Tseming Yang, *Environmental Tort Litigation in China*, 41 ENVTL. L. REP. 10895, 10895-96 (2011).

5. *Id.*

6. See [Tort Liability Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 26, 2009, effective July 1, 2010) [hereinafter TLL], available at [http://www.procedurallaw.cn/english/law/201001/t20100110\\_300173.html](http://www.procedurallaw.cn/english/law/201001/t20100110_300173.html) (China).

7. These principles include: strict liability, reversed burden of proof, proportional liability, and the determination of liability when third party activities are involved. See Mo Zhang, *Tort Liabilities and Torts Law: The New Frontier of Chinese Legal Horizon*, 10 RICH. J. GLOBAL L. & BUS. 415, 486-89 (2011), available at <http://rjglb.richmond.edu/index.php/tort-liabilities-and-torts-law-the-new-frontier-of-chinese-legal-horizon/>.

8. See *infra* part II.A.a.

9. See *infra* part III.B.b.

10. *Id.*

11. See *infra* part IV.

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This article is organized as follows: following the introduction in Part I, Part II focuses on the role of liability rules in compensation for environmental harm, then Part III focuses on insurance, and Part IV discusses the specific case of marine oil pollution. For each topic, we will first describe theoretical possibilities for providing compensation, and then examine the role these mechanisms play in practice. Part V offers a few concluding remarks, and provides an economic analysis and policy recommendations.

## II. LIABILITY RULES

### A. Theory: Environmental Liability in the Past and the Present

#### a. Introduction

Since quite a few publications have already explored the issue of environmental liability in China,<sup>12</sup> we will be relatively brief in discussing theoretical possibilities for victims of environmental pollution to obtain compensation for the environmental damage they suffered. The most important question is how these theoretical possibilities are implemented in practice.<sup>13</sup> In this part, we discuss two types of environmental damage that can be caused by accidents or gradual accumulation: (1) traditional damage (such as personal injury and property damage); and (2) ecological damage (environmental damage per se). Such a distinction is relevant because, for the latter,

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12. Some literature discusses environmental liability under the background of the newly published Tort Liability Law. *See generally* Michael Faure & Hu Weiqiang, *Towards a Reform of Environmental Liability in China: An Economic Analysis*, 13 *ASIA PAC. J. ENVTL. L.* 225 (2011); Zhang, *supra* note 7, at 486. While other literature discusses the topic from the perspective of environmental litigation and environmental dispute resolution. *See* Moser & Yang, *supra* note 4, at 10896. *See generally* Yuhong Zhao, *Environmental Dispute Resolution in China*, 16 *J. ENVTL. L.* 157 (2004); RACHEL E. STERN, *Navigating the Boundaries of Political Tolerance: Environmental Litigation in China* (Fall 2009) (unpublished Ph.D. dissertation, University of California, Berkeley), *available at* [http://www.icassecretariat.org/files/R%20Stern\\_Navigating%20the%20Boundaries\\_Ph.D.%20Diss%20\(2009\)\\_Double%20Spaced.pdf](http://www.icassecretariat.org/files/R%20Stern_Navigating%20the%20Boundaries_Ph.D.%20Diss%20(2009)_Double%20Spaced.pdf).

13. *See infra* part II.B.

restoration is usually more important than just monetary compensation. The necessity of government involvement makes China's compensation regime a combined civil and administrative system. These characteristics make traditional tort law insufficient to compensate for ecological damage.<sup>14</sup>

Traditionally there were possibilities to address environmental damage via private law, but the rules were not always clear or consistent.<sup>15</sup> Rules concerning environmental liability were contained in the so-called General Principles of Civil Law of 1986 (GPCL),<sup>16</sup> as well as in environmental statutes covering specific fields. The Environmental Protection Law (EPL) of 1989<sup>17</sup> is the basic statute in the field of environmental law in China. In addition to this basic statute, some other sector-based environmental statutes also have some environmental liability provisions. These special environmental statutes include, for example, the Marine Environmental Protection Law (MEPL) of 1982, 1999,<sup>18</sup> the Water Pollution Prevention and Control Law (WPPL) of 1984, 2008,<sup>19</sup> and the Solid Wastes Pollution Prevention and Control Law (SWPPL) of 1995.<sup>20</sup> The difficulty

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14. Michael G. Faure & Liu Jing, *New Models for the Compensation of Natural Resources Damage*, 4 KY. J. EQUINE AGRIC. & NAT. RESOURCE L. 261, 269-73 (2012) (discussing the unique characteristics of ecological damage).

15. See William P. Alford & Yuanyuan Shen, *Limits of the Law in Addressing China's Environmental Dilemma*, 16 STAN. ENVTL. L. J. 125, 127 (1997).

16. [General Principles of the Civil Law of the People's Republic of China] (promulgated by the Nat'l People's Cong., Apr. 12, 1986, effective Jan. 1, 1987) [hereinafter GPCL], available at [http://www.china.org.cn/china/LegislationsForm2001-2010/2011-02/11/content\\_21898337.htm](http://www.china.org.cn/china/LegislationsForm2001-2010/2011-02/11/content_21898337.htm) (China).

17. [Environmental Protection Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 26, 1989, effective Dec. 26, 1989) [hereinafter EPL], available at <http://www.china.org.cn/english/environment/34356.htm> (China).

18. [Marine Environmental Protection Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 23, 1982, revised Dec. 25, 1999, effective Apr. 1, 2000) [hereinafter MEPL], available at [http://www.mlr.gov.cn/mlrenglish/laws/200710/t20071012\\_656329.htm](http://www.mlr.gov.cn/mlrenglish/laws/200710/t20071012_656329.htm) (China).

19. [Water Pollution Prevention and Control Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., May 11, 1984, revised Feb. 28, 2008, effective June 1, 2008) [hereinafter WPPL], available at [faolex.fao.org/docs/texts/chn23549.doc](http://faolex.fao.org/docs/texts/chn23549.doc) (China).

20. [Solid Wastes Pollution Prevention and Control Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong.,

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lay in the fact that the conditions for liability differed between the GPCL and the specialized statutes.<sup>21</sup>

Article 124 of the GPCL stipulates that: “Any person who pollutes the environment and causes damages to others in violation of State provisions for environmental protection and the prevention of pollution shall bear civil liability in accordance with the law.”<sup>22</sup> A violation of a relevant regulation is a condition for liability.<sup>23</sup> The specialized laws, however, do not require a violation of a specific regulation for liability.<sup>24</sup> For example, the EPL states in Section 1 of Article 41 that: “A unit that has caused an environmental pollution hazard shall have the obligation to eliminate it and make compensation to the unit or individual that suffered direct losses.”<sup>25</sup> Hence, the latter seems to introduce the possibility of liability without violating any regulation, introducing a strict liability rule.<sup>26</sup>

In Chinese legal scholarship, as well as in case law, differences of opinion exist as to: (1) whether the GPCL or the specialized statutes have priority, and (2) how to interpret the requirement that a relevant law must be violated.<sup>27</sup> These debates have to an important extent been eliminated since China introduced the TLL,<sup>28</sup> which was passed on December 26, 2009. Chapter VIII of the TLL contains rules on environmental liability and opts for a strict liability regime, which would eliminate the legal debate that took place in the past.<sup>29</sup> Although the change brought about by the TLL seems quite important from an outsider’s perspective, experts assert that the introduction of environmental liability in the TLL is less important than one may

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Oct. 30, 1995, revised Dec. 29, 2004, effective Apr. 1, 2005) [hereinafter SWPPL], available at [faolex.fao.org/docs/texts/chn53314.doc](http://faolex.fao.org/docs/texts/chn53314.doc) (China).

21. As discussed *infra*, the GPCL requires the violation of a legal obligation to establish liability. While in these acts, the liability rules are similar to that under the EPL, the violation is not a necessary requirement.

22. GPCL, art. 124.

23. *Id.*

24. See MEPL, art. 90; WPPL, art. 85; SWPPL, art. 84.

25. EPL, art. 41.

26. See Faure & Hu, *supra* note 12, at 231-32.

27. *Id.* at 231-33.

28. TLL, art. 70.

29. See Faure & Hu, *supra* note 12, at 235-36.

think.<sup>30</sup> Commentators have explained that the new provisions are merely a summary of existing rules and in fact contain no significant changes.<sup>31</sup> Laws like the EPL already contained a strict liability rule, so the new rule in the TLL is less than revolutionary.<sup>32</sup> Moreover, the change in material rules with respect to environmental liability may not be that important since the practical limits in obtaining compensation via liability rules may be far more serious than the impediments in legislation.<sup>33</sup> As far as ecological damage is concerned, there are still questions concerning the applicable liability rule.<sup>34</sup> For example, it is unclear whether the environmental liability rules in the civil law mentioned above also cover ecological damage.

The TLL may broaden the scope of liability for environmental harms.<sup>35</sup> In the second official discussion draft on December 21, 2008, Article 67 stipulated: “If environmental pollution causes harm to another, the polluter shall bear tort liability, but if other laws specify defenses, then the other laws shall govern.”<sup>36</sup>

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30. Interview with Wang Canfa, Professor, China University of Political Science and Law, Centre for Legal Aid to Pollution Victims (CLAPV), in Beijing, China (Aug. 23, 2011) [hereinafter Interview with Prof. Wang Canfa] (on file with authors).

31. *Id.* See Moser & Yang, *supra* note 4, at 10897-98 (discussing the linkage between the TLL and existing legislation); see also Zhang, *supra* note 7, at 486-89.

32. Interview with Prof. Wang Canfa, *supra* note 30.

33. See Surya Deva, *The PRC Tort Law: A Big Step Forward?*, 2 CITY U. H.K. L. REV. 383, 394-95 (2010) (showing the impact of enforcement on the practical effects of the new TLL).

34. As discussed *infra*, ecological damage is not discussed in other environmental statutes, with the exception of the MEPL.

35. The general tort liability provision under the GPCL stipulates: “Citizens and legal persons who through their fault encroach upon the State or collective property or the property or the property or person of other people shall bear civil liability. Civil liability shall still be borne even in the absence of fault, if the law so stipulates.” GPCL, art. 106. Under the GPCL, only when an act involves damage to property or persons can liability be established. The TLL, as discussed *infra* defines “civil rights and interests” broadly, by using a catchall provision.

36. See generally [Tort Liability Law of People’s Republic of China (2d Official Discussion Draft Dec. 21, 2008)], (George W. Conk & Wang Zhu, trans., Fordham Law Legal Studies Research Paper No. 1501302 2009), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1501302](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1501302).



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Under this provision, liability is limited to harm to people, but impairment to the environment was not included.<sup>37</sup> The final text adopted a broader definition by referring to “any harm,” and the prerequisite of “damage to another” is no longer mentioned.<sup>38</sup> This change may be read as expanding the scope of liability to both harm to people and harm to the environment. However, this provision needs to be explained in line with the rest of the statute, including the general provision about the statute’s goals (Article 1) and overall scope (Article 2). Article 1 states that the aim of this law is “to protect the legitimate rights and interests of parties in civil law relationships.”<sup>39</sup> Article 2 further clarifies that this law applies to the infringement upon “civil rights and interests.”<sup>40</sup> It holds:

Those who infringe upon civil rights and interests shall be subject to the tort liability according to this Law. The term “civil rights and interests” used in this act includes the right to life, the right to health, the right to name, the right to reputation, the right to honor, right to self image, right of privacy, marital autonomy, guardianship, ownership, usufruct, security interest, copyright, patent right, exclusive right to use a trademark, right of discovery, equities, right of succession, and other personal and property rights and interests.<sup>41</sup>

The term “civil rights and interests” is determined by listing specific rights and interests.<sup>42</sup> The catchall expression also enables an interest to receive protection under the TLL, even if it is not established as a “civil right” and not explicitly included in the list.<sup>43</sup> However, these provisions provide no clear guidance on

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37. *See generally id.*

38. TLL, art. 65 (“Where any harm is caused by environmental pollution, the polluter shall assume the tort liability.”).

39. TLL, art. 1 (“In order to protect the legitimate rights and interests of parties in civil law relationships, clarify the tort liability, prevent and punish tortious conduct, and promote the social harmony and stability, this Law is formulated.”).

40. TLL, art. 2.

41. *Id.*

42. *Id.*

43. Vernon Valentine Palmer, *The Great Spill in the Gulf . . . and a Sea of Pure Economic Loss: Reflections on the Boundaries of Civil Liability*, 116 PENN ST. L. REV. 105, 114-15 (2011).

whether liability can be established if there are no personal losses involved. In other words, it is not clear whether liability can be established for pure ecological damage or damage to natural resources. Hence, to determine the extent that ecological damage needs to be restored and compensated, one still needs to look at specific environmental statutes. The only law that explicitly mentions ecological damage as a compensable tort is within the MEPL, concerning the release of oil into the marine environment.<sup>44</sup>

### **b. Basis of Liability**

Until the promulgation of the TLL in December 2009, the basis of environmental liability could generally be found in Article 124 of the GPCL and in environmental protection statutes covering specialized fields.<sup>45</sup> These have not been formally abrogated, but it is likely that in practice they may play a minor role in the future, since victims will likely rely on the TLL.<sup>46</sup> Chapter VIII of the TLL deals explicitly with environmental liability.<sup>47</sup> Article 65 of the TLL unconditionally provides that the polluter shall be held liable for the harm caused by his pollution.<sup>48</sup> The language in Article 65 strongly suggests that a strict liability rule applies.<sup>49</sup> In contrast to Article 124 of the GPCL, Article 65 of the TLL does not mention any requirement of violation of relevant laws. In that respect, Article 65 of the TLL

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44. *See infra* part IV.A.a.

45. *See supra* part II.A.a.

46. According to Article 83 of the Legislation Law: "With regard to laws, administrative regulations, local regulations, autonomous regulations, separate regulations or rules, if they are formulated by one and the same organ and if there is inconsistency between special provisions and general provisions, the special provisions shall prevail; if [an] inconsistency between the new provisions and the old provisions, the new provisions shall prevail." [Legislation Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Mar. 15, 2000, effective July 1, 2000) [hereinafter Legislation Law], available at <http://www.china.org.cn/english/government/207419.htm> (China).

47. TLL, art. 65-68.

48. *Id.* art. 65 ("Where any harm is caused by environmental pollution, the polluter shall assume the tort liability.").

49. Zhang, *supra* note 7, at 486-87.

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resembles the approach followed in the EPL of 1989.<sup>50</sup> Consequently, a violation of relevant laws is no longer a condition for liability, and neither is compliance with a regulation mentioned as a specific defense.<sup>51</sup> Exemptions to tort liability are enumerated in a seemingly limited way in Chapter III of the TLL.<sup>52</sup> For example, under the TLL, when the injured party shares responsibility for his injuries, the liability of the tortfeasor may be mitigated, but if the injured party intentionally injures himself, the tortfeasor will not be held liable.<sup>53</sup> Liability is also exonerated when the harm is caused by *force majeure*.<sup>54</sup>

The TLL provides the new legal basis for environmental liability in China. What remains to be clarified is how the TLL relates to existing specific environmental statutes.<sup>55</sup> As discussed *supra*, there are liability provisions in some environmental statutes dealing with specific environmental components, such as the MEPL, the WPPL, and the Atmospheric Pollution Prevention and Control Law (APPL).<sup>56</sup>

However, China does not have specific rules on liability for soil pollution.<sup>57</sup> Applying the general environmental liability rules to soil pollution creates some practical difficulties. Given the long-term characteristics of soil pollution, polluters are difficult to identify and may cease to exist before the manifestations of the pollution become apparent. The cleanup

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50. Faure & Hu, *supra* note 12, at 235.

51. *Id.* at 235-37.

52. *Id.* at 237.

53. TLL, art. 27 (“The actor shall not be liable for any harm that is caused intentionally by the victim.”).

54. TLL, art. 26 (“Where the victim of a tort is also at fault as to the occurrence of harm, the liability of the tortfeasor may be mitigated.”); *see also id.*, art. 27; *id.*, art. 29 (“Where any harm to another person is caused by a force majeure, the tortfeasor shall not be liable, except as otherwise provided for by law.”).

55. Faure & Hu, *supra* note 12, at 237.

56. [Atmospheric Pollution Prevention and Control Law of the People’s Republic of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Sept. 5, 1987, effective June 1, 1988, revised Apr. 29, 2000, effective Sept. 1, 2000) [hereinafter APPL], *available at* [http://english.gov.cn/laws/2005-09/07/content\\_29877.htm](http://english.gov.cn/laws/2005-09/07/content_29877.htm) (China).

57. *See* ZHAO XIAOBO, DEVELOPING AN APPROPRIATE CONTAMINATED LAND REGIME IN CHINA: LESSONS LEARNED FROM THE US AND THE UK 65-67 (2013) (discussing the liability regime for soil pollution).

and compensation for soil pollution are now subject to a variety of different, rather piecemeal types of stipulations.<sup>58</sup> For example, the SWPPL provides in Article 35 that the entities discharging industrial solid wastes need to take preventative measures at sites before terminating their activities.<sup>59</sup> In response, the Ministry of Environmental Protection (MEP) (formerly, the Environmental Protection Agency) has issued guidance documents on the prevention of and liability for soil pollution.<sup>60</sup> The guidance documents which describe strengthening pollution prevention requirements during the relocation of industrial sites, and the opinion on strengthening soil pollution prevention requirements each provide guidance on the allocation of the soil pollution liability.<sup>61</sup> The *Huanban 2004 Document* stipulates that producers of dangerous waste must assess the risk before relocation to a new industrial site, and places the burden of cleaning up contamination on the polluters.<sup>62</sup> Likewise, the *Huanfa 2008 Document* is based on the polluter-pays principle, and holds the former operators as the primarily liable parties.<sup>63</sup> When polluters have already ceased to exist, or cannot be identified, the government or the transferee of the land shall take remediation measures.<sup>64</sup> However, these documents are still too

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58. *See id.*

59. SWPPL, art. 35 (“Where it is necessary for the entities discharging industrial solid wastes to be terminated, measures for preventing and controlling pollution shall be taken in advance to the facilities and sites for storing and treating industrial solid wastes, and the untreated industrial solid wastes shall be disposed properly to prevent environmental pollution.”).

60. *See* ZHAO, *supra* note 57, at 65-67.

61. MINISTRY OF ENVTL. PROT., [NOTICE OF GREAT JOB ON CORPORATE RELOCATION PROCESS OF ENVIRONMENTAL POLLUTION PREVENTION AND CONTROL] (June 1, 2004) [hereinafter HUANBAN 2004 DOCUMENT], *available at* [http://www.mep.gov.cn/gkml/zj/bgt/200910/t20091022\\_173879.htm](http://www.mep.gov.cn/gkml/zj/bgt/200910/t20091022_173879.htm) (China); MINISTRY OF ENVTL. PROT., [OPINIONS ON STRENGTHENING SOIL POLLUTION PREVENTION AND CONTROL WORK] (June 6, 2008) [hereinafter HUANFA 2008 DOCUMENT], *available at* [http://www.mep.gov.cn/gkml/hbb/bwj/200910/t20091022\\_174598.htm](http://www.mep.gov.cn/gkml/hbb/bwj/200910/t20091022_174598.htm) (China).

62. HUANBAN 2004 DOCUMENT, art. 1.

63. HUANFA 2008 DOCUMENT, pt. 8.

64. *Id.*

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abstract to solve many problems in practice.<sup>65</sup> There are also several drafts intended to provide more detailed technical guidance on the assessment, monitoring, and management of polluted sites,<sup>66</sup> but these drafts have not entered into force yet. In addition to those guidance documents, some local authorities have made efforts to issue their own requirements for prevention and remediation of soil pollution, such as Shenyang, and Chongqing.<sup>67</sup> These municipal requirements have many similarities to the national guidance documents.<sup>68</sup>

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65. For example, it does not answer the questions of who should be liable if damage still emerges after the restoration, and how to allocate the liability between existing and former operators.

66. *See generally* [CHINA'S NATIONAL ENVIRONMENTAL PROTECTION STANDARDS: GUIDELINES FOR RISK ASSESSMENT OF CONTAMINATED SITES (DRAFT)] (issued by the Ministry of Env'tl. Prot.), *available at* <http://www.sepa.gov.cn/info/bgw/bbgt/200910/W020091009550671751947.pdf> (China); [CHINA'S NATIONAL ENVIRONMENTAL PROTECTION STANDARDS: GUIDELINES FOR SOIL REMEDIATION OF CONTAMINATED SITES (DRAFT)] (issued by the Ministry of Env'tl. Prot.), *available at* <http://www.mep.gov.cn/gkml/hbb/bgth/200912/W020091223374051865851.pdf> (China); [CHINA'S NATIONAL ENVIRONMENTAL PROTECTION STANDARDS: TECHNICAL GUIDELINES FOR ENVIRONMENTAL MONITORING OF SITES (DRAFT)] (issued by the Ministry of Env'tl. Prot.), *available at* <http://www.mep.gov.cn/gkml/hbb/bgth/201002/W020100208572809009978.pdf> (China); [CHINA'S NATIONAL ENVIRONMENTAL PROTECTION STANDARDS: THE TECHNICAL SPECIFICATION FOR ENVIRONMENTAL SITE INVESTIGATION (DRAFT)] (issued by the Ministry of Env'tl. Prot.), *available at* [http://www.sepa.gov.cn/info/bgw/bbgt/200908/t20090812\\_157381.htm](http://www.sepa.gov.cn/info/bgw/bbgt/200908/t20090812_157381.htm) (China), click link [THE TECHNICAL SPECIFICATIONS FOR ENVIRONMENTAL SITE INVESTIGATION (DRAFT)]; [TEMPORARY SOIL MANAGEMENT FOR ENVIRONMENTAL MONITORING OF CONTAMINATED SITES (DRAFT)] (issued by the Ministry of Env'tl. Prot.), *available at* <http://www.mep.gov.cn/gkml/hbb/bgth/200912/W020091223431801518384.pdf> (China).

67. For example, in Shenyang, a regulation on contaminated sites remediation and restoration was promulgated in 2008. *See* [Shenyang Hazardous Waste Pollution Prevention Regulations] (promulgated by the Shenyang City People's Cong., Oct. 30, 2008, effective Jan. 1, 2009) [hereinafter SHENYANG REGULATION ON PREVENTING POLLUTION FROM DANGEROUS WASTE], *available at* [http://www.ln.gov.cn/zfxx/fggz/gwyfg\\_3/sy/200902/t20090204\\_330763.html](http://www.ln.gov.cn/zfxx/fggz/gwyfg_3/sy/200902/t20090204_330763.html) (China). The Chongqing government also issued a document on soil pollution restoration. CHONGQING ENVTL. PROT. BUREAU, [NOTICE ON PROMOTING THE RESTORATION AT CONTAMINATED INDUSTRIAL SITES IN CHONGQING] (May 27, 2013) [hereinafter CHONGQING RESTORATION OF CONTAMINATED SITES REGULATIONS], *available at* <http://www.cq.gov.cn/publicinfo/web/views/Show!detail.action?sid=1106243> (China).

68. *See generally* SHENYANG REGULATION ON PREVENTING POLLUTION FROM DANGEROUS WASTE, *supra* note 67; CHONGQING RESTORATION OF CONTAMINATED SITES REGULATIONS, *supra* note 67.

**c. Causation, Multiple Tortfeasors, and Burden of Proof**

With respect to issues that can have a crucial bearing on the effectiveness of environmental liability as a compensation mechanism, the TLL of 2009 also produced interesting innovations. Article 66 of the TLL provides that:

Where any dispute arises over an environmental pollution, the polluter shall assume the burden to prove that it should not be liable or its liability could be mitigated under certain circumstances as provided for by law or to prove that there is no causation between its conduct and the harm.<sup>69</sup>

Article 66 completely shifts liability to the polluter. As a consequence of the strict liability introduced in Article 65, it is the polluter who now bears the burden of proving defenses, including exemption or mitigation of liability.<sup>70</sup> The polluter also has the burden to prove there is a lack of causation between its activities and the personal or environmental harm. This could present a potentially dangerous situation for defendants to the extent that they may not be able to show that their activity was not the source of a particular damage suffered by the plaintiffs.<sup>71</sup> However, this is not revolutionary either, since a rule of the reversal of the burden of proof already exists under the CPL of 1992.<sup>72</sup> Moreover, the concern of over-deterrence can be balanced through the implementation of this reversal of burden provision in practice, which is often criticized as problematic.<sup>73</sup>

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69. TLL, art. 66.

70. Zhang, *supra* note 7, at 487-88.

71. Economic analysis shows that this rule may lead to over-deterrence of the potential polluters. See Faure & Hu, *supra* note 12, at 241. Literature also shows concern that the TLL allows the reversal of the burden of proof without requiring even an indication of a casual relationship. See Helmut Koziol & Yan Zhu, *Background and Key Contents of the New Chinese Tort Liability Law*, 1 J. EUR. TORT L. 328, 357-58 (2010).

72. SUP. PEOPLE'S CT., [THE OPINION OF THE SUPREME COURT ON THE APPLICATION OF THE CIVIL PROCEDURE LAW] (1992), available at [http://www.law-lib.com/law/law\\_view.asp?id=54915](http://www.law-lib.com/law/law_view.asp?id=54915) (China).

73. See Moser & Yang, *supra* note 4, at 10897. For more detailed information about the practice, see *infra* part II.B.c.

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As far as the multiple polluter case is concerned, the TLL holds in Article 67 that:

Where the environmental pollution is caused by two or more polluters, the seriousness of liability of each polluter shall be determined according to the type of pollutant, volume of emission and other factors.<sup>74</sup>

In the case of multiple polluters, damages will be apportioned based on the type of pollutants and the volume of emissions.<sup>75</sup> It is striking that Chinese law follows a proportional approach in the case of multiple tortfeasors, but chooses instead to adopt shifting of the burden of proof (in Article 66) in the case of uncertain causation.<sup>76</sup>

The new rules dealing with multiple tortfeasors were also mentioned as an innovation by Chinese experts we interviewed.<sup>77</sup> Before the promulgation of the TLL, in most cases, a joint and several liability rule applied. The GPCL stipulates that: “If two or more persons jointly infringe upon another person’s rights and cause him damage, they shall bear joint liability.”<sup>78</sup> The GPCL and the EPL have no specific provisions on multiple tortfeasors in the case of environmental liability; thus the general rule under the GPCL applies.<sup>79</sup> However, with the introduction of the TLL, liability needs to be decided according to the contributions of each polluter, and a several liability rule applies.

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74. TLL, art. 67.

75. Zhang, *supra* note 7, at 488-89.

76. Faure & Hu, *supra* note 12, at 241.

77. Interview with Prof. Wang Canfa, *supra* note 30.

78. GPCL, art. 130.

79. According to Article 83 of the Legislation Law, if the same organ promulgates the rules and there is inconsistency, the specialized rule has priority over the general rules. In the GPCL and the EPL, the environmental liability rules are specialized rules and the general tort law is a general rule. If there is a specific provision on multiple tortfeasors in an environmental liability case, the specific provision shall have the priority. However, this rule does not exist in the GPCL and the EPL. Hence the general rule in the GPCL applies. Legislation Law, art. 83.

#### d. Remedies and Standards

Article 15 of the TLL<sup>80</sup> provides for “forms of tort liability” which in fact enumerate the remedies that could be applied. It is a long list including:

- (1) cessation of infringement;
- (2) removal of obstruction;
- (3) elimination of danger;
- (4) return of property;
- (5) restoration to the original status;
- (6) compensation for losses;
- (7) apology; and
- (8) elimination of consequences and restoration of reputation.<sup>81</sup>

Article 15 *in fine* holds that these forms of tort liability can apply separately or simultaneously.<sup>82</sup>

As far as environmental harm is concerned, injunctions, elimination of risk, and restitution may be important as well as, of course, compensation for losses.<sup>83</sup> These remedies, however, are more suitable for traditional damage.<sup>84</sup> As far as compensation for ecological damage is concerned, difficulties exist to determine which part of the damage is compensable.<sup>85</sup> As discussed earlier, the environmental liability rules in the TLL do not explicitly recognize ecological damage as compensable.<sup>86</sup>

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80. TLL, art. 67.

81. TLL, art. 15.

82. *Id.* (“The above methods of assuming the tort liability may be adopted individually or jointly”).

83. *See* Zhao, *supra* note 12, at 187-89.

84. *See supra* part II.A.a.

85. How to compensate for natural resource damage has long been hotly discussed in the United States. *See generally* Frank B. Cross, *Natural Resource Damage Valuation*, 42 VAND. L. REV. 269 (1989) [hereinafter Cross 1989]; Frank B. Cross, *Restoring Restoration for Natural Resource Damages*, 24 U. TOL. L. REV. 319 (1993) [hereinafter Cross 1993]; Allan Kanner & Tibor Nagy, *Measuring Loss of Use Damages in Natural Resource Damage Actions*, 30 COLUM. J. ENVTL. L. 417 (2005). For a discussion on the difficulties in quantifying ecological damage in the European Union, *see generally* G.M. van den Broek, *Environmental Liability and Nature Protection Areas: Will the EU Environmental Liability Directive Actually Lead to the Restoration of Damaged Natural Resources?*, 5 UTRECHT L. REV. 117 (2009).

86. *See supra* part II.A.a.



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Therefore, claims are usually limited to require compensation for direct losses suffered.<sup>87</sup> Claims for pure ecological damage are allowed only when specific legislation has explicit provisions, and such provisions are usually limited to preventive measures or restoration measures.<sup>88</sup> Even when restoration measures are concerned, assessment standards lack a determination for restoring the damage.<sup>89</sup> This is especially true for soil pollution; so far, technical standards have not been defined or are too old to solve existing problems.<sup>90</sup> This means that, for example, quality standards indicating what the desired quality of the soil is to which the soil should be restored, do not exist or are not satisfactory.<sup>91</sup> This makes the task of the judge difficult if it cannot be clearly indicated which restoration standard would be required. In order to face those difficulties, the government intends to promulgate assessment standards. A first step in that direction has been taken in the *Recommendation on Methods on Assessing Environmental Damage*, published by the MEP in 2011.<sup>92</sup> This document gives some general guidance on how to assess pure ecological damage in some specific areas, but it is not a binding standard that can be applied in court.<sup>93</sup> Hence, it

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87. Interview with Prof. Wang Canfa, *supra* note 30.

88. Marine oil pollution is such an example. *See infra* part IV.A.a.

89. Interview with Prof. Wang Canfa, *supra* note 30; Interview with Wang Jin, Professor, Peking University Law School, in Beijing, China (Aug. 24, 2011) [hereinafter Interview with Prof. Wang Jin] (on file with authors).

90. Wang Shuyi, [A Few Thoughts on the Drafting of the Soil Pollution Prevention Act of the People's Republic of China], 149 L. REV. 73, 74 (2008) (China).

91. For example, the Environmental Quality Standards for Soil issued in 1995 applied to cultivated lands, pasture, forestry and natural reserve areas. However, on the one hand the application scope of these standards is very limited; while on the other hand experts held that many parts of the standards do not fit the Chinese soil status. *See id.*

92. The Recommendation on Methods on Assessing Environmental Damage is developed by the Chinese Academy for Environment Planning, designated by the Ministry of Environmental Protection. It is not legally binding. [RECOMMENDATIONS ON COMPENSATION FOR ENVIRONMENTAL DAMAGE, 1ST EDITION], (issued by the Chinese Academy for Env't Planning, Ministry of Env'tl. Prot.) [hereinafter METHODS ON ASSESSING ENVIRONMENTAL DAMAGE], available at <http://www.mep.gov.cn/gkml/hbb/bwj/201105/W020110530352486511962.pdf> (China).

93. This Recommendation is made by a scientific research center—The Chinese Academy for Environmental Planning—under the designation of the

certainly does not solve all problems of ecological damage assessment.<sup>94</sup> Recently, a *Temporary Assessment Rule for Pollution Damage Caused by Environmental Accidents* was published by the MEP, and was made available for consultation with related public authorities and environmental research institutes.<sup>95</sup> It establishes procedures for responding, assessing, and restoring pollution damage caused by sudden accidents. How this rule will be finalized and implemented still waits to be seen.

#### e. Access to the Court for Victims

The Civil Procedure Law (CPL)<sup>96</sup> in China prescribes the conditions for a case to be accepted by the court. Article 108 states:

The following requirements must be met when an action is initiated:

- (1) the plaintiff must be an individual, legal person or any other organization that has a direct interest in the case;
- (2) there must be a specific defendant;
- (3) there must be a concrete claim, facts and cause of action; and
- (4) the action must be within the scope of acceptance for civil lawsuits of the people's courts and within the jurisdiction of the people's court where it is filed.<sup>97</sup>

This provision defines the plaintiff narrowly as the one who has a direct interest in the case. This constrained standing

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MEP. It has not approved though the formal legislation procedure and is not a legally binding document.

94. Since it is not legally binding, judges are still free to choose the method they regard as appropriate. To what extent the Recommendation has important practical implications is still waiting to be seen.

95. MINISTRY OF ENVTL. PROT., TEMPORARY ASSESSMENT RULE FOR POLLUTION DAMAGE CAUSED BY ENVIRONMENTAL ACCIDENTS (Consultation Draft), *available at* [http://www.zhb.gov.cn/gkml/hbb/bgth/201301/t20130128\\_245592.htm](http://www.zhb.gov.cn/gkml/hbb/bgth/201301/t20130128_245592.htm) (China).

96. [Civil Procedure Law of the People's Republic of China] (promulgated by the Nat'l People's Cong., Apr. 9, 1991, effective Apr. 9, 1991, revised Oct. 29, 2007 and Aug. 31, 2012) [hereinafter CPL], *available at* <http://china.findlaw.cn/jingjifa/shewaifalv/swlfg/20110414/91492.html> (China). Note that this English version is only updated to include the 2007 revisions, not the 2012 revisions. However, as far as Article 108 is concerned, the 2007 and 2012 versions are identical.

97. *Id.* art. 108.

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makes it possible that a plaintiff will be denied access to the court if he cannot show direct physical or economic damage.<sup>98</sup> Thus an important hurdle exists when there is no individual damage involved in pollution incidents. This problem may be remedied by the newly revised CPL, which allows for public interest litigation.<sup>99</sup> Two drafts to revise the CPL were submitted to the Standing Committee of the National People's Congress for discussion in November 2011 and April 2012.<sup>100</sup> The revision was finally promulgated in August 2012. The first draft added a public interest litigation provision, stating: "[I]f an activity which pollutes the environment or violates many consumers' rights composes an infringement on the public interest, related public authorities or social organizations can file litigation."<sup>101</sup> Such a provision opens a possibility for public authorities and NGOs to file a lawsuit when there is no individual damage involved. However, this provision in the first draft was criticized as too obscure and was narrowed in the final revision.<sup>102</sup> The final law provides that: "[I]f environmental pollution and activities infringing on many consumers' legal rights harm public interests, the authorities and organizations prescribed by law can bring a suit in the people's court."<sup>103</sup> In this case, public authorities and NGOs may bring a claim for ecological damage that concerns the public interest. However, the provision limits standing to the parties that are prescribed by law.<sup>104</sup> This means that a party

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98. Alford & Shen, *supra* note 15, at 147; Adam Briggs, *China's Pollution Victims: Still Seeking a Dependable Remedy*, 18 GEO. INT'L ENVTL. L. REV. 305, 327 (2006).

99. The CPL was revised in 2012 and came into force on January 1, 2013. [The Decision to Revise the People's Republic of China Civil Procedure Law] (promulgated by the Standing Comm. Nat'l People's Cong., Aug. 31, 2012, effective Jan. 1, 2013) [hereinafter CPL Revision], available at [http://www.gov.cn/flfg/2012-09/01/content\\_2214662.htm](http://www.gov.cn/flfg/2012-09/01/content_2214662.htm) (China). See *China Amends Civil Procedure Law*, CHINA.ORG.CN, [http://www.china.org.cn/china/2012-08/31/content\\_26392562.htm](http://www.china.org.cn/china/2012-08/31/content_26392562.htm) (last visited Jan. 3, 2014).

100. [First Draft Amendment to the Civil Procedure Law], Nat'l People's Cong. (Oct. 29, 2011) [hereinafter CPL Draft 1], available at [http://www.npc.gov.cn/npc/xinwen/syxw/2011-10/29/content\\_1678367.htm](http://www.npc.gov.cn/npc/xinwen/syxw/2011-10/29/content_1678367.htm) (China).

101. CPL Draft 1, pt. 8.

102. CPL Revision, pt. 9.

103. *Id.*

104. *Id.*

can file a case in court only if authorized explicitly by statute.<sup>105</sup> For example, under the MEPL, the public authorities in charge of marine environmental supervision and management can claim for losses if there is damage to the marine ecosystem, to marine fishery resources, or to the marine protected areas.<sup>106</sup> However, in other areas where there is no such specific legislation, standing still constitutes a significant hurdle.<sup>107</sup>

When standing or other requirements for accepting a case are not satisfied, the court can issue a verdict to reject the case according to Article 112 of the CPL:

When a people's court receives a bill of complaint or an oral complaint and after review finds that it meets the requirements for acceptance, [it shall file the case] within seven days and notify the parties; if the complaint does not meet the requirements for acceptance, the court shall, within seven days, order that the complaint be rejected. If the complainant has an objection against the order, he or she may file an appeal.<sup>108</sup>

This provision, in theory, requires a verdict if the court decides not to accept a case. In other words, the refusal of a case is supposed to be accompanied by a written rationale, which gives the plaintiff the possibility to appeal such a decision.<sup>109</sup> However, judges often skip this step in practice.<sup>110</sup>

The limited standing under the CPL, the conservative attitude towards public interest litigation, and the arbitrariness existing in accepting cases have led to heated discussions in literature on the topic.<sup>111</sup> In addition to the provision on public

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105. *Id.*

106. MEPL, art. 90.

107. As explained *infra*, the new revised CPL provision still needs the authorities and organizations to be "prescribed by law." If there is no legislation to authorize the authorities or organizations, then the standing difficulty is unresolved.

108. CPL, art. 112.

109. *Id.*

110. Rachel Stern, *From Dispute to Decision: Suing Polluters in China*, 206 CHINA Q. 294, 297 (2011); for details see *supra* part II.A.c.

111. See, e.g., Christine J. Lee, "Pollute First, Control Later" No More: Combating Environmental Degradation in China Through an Approach Based in Public Interest Litigation and Public Participation, 17 PAC. RIM L. & POL'Y J. 795, 814 (2008); Alex Wang, *The Role of Law in Environmental Protection in*

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interest litigation, the revised CPL has another provision aimed at protecting the plaintiff's right to sue.<sup>112</sup> It revises Article 112 of the CPL by adding one sentence, stating: "[T]he Court should protect the parties' right to sue according to law."<sup>113</sup> It further clarifies that "if the requirements for accepting a case are not satisfied, the court shall make a written verdict to reject the case."<sup>114</sup> Compared to the existing provisions, the revision explicitly requires that the verdict rejecting a case should be written, so that the parties' right to appeal can be better protected.<sup>115</sup>

## B. Practice

From the outset it should be stated that, unfortunately, there is overwhelming evidence of the dire state of the environment in China.<sup>116</sup> In a recent study, Nagle reports that two-thirds of the 360 million urban residences in China suffer from unhealthy levels of air pollution, that serious pollution of the surface waters exists in China, and that China is now the largest emitter of carbon dioxide in the world.<sup>117</sup> In this part, we will examine how compensation for environmental damage works in practice in China. We look both at liability for traditional damage, and at ecological damage.

### a. Who Acts After An Incident?

After an environmental incident occurs or pollution is detected, the first issue that arises is whether an investigation

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*China: Recent Developments*, 8 VT. J. ENVTL. L. 195, 220 (2007). See generally Briggs, *supra* note 98; Stern, *supra* note 110.

112. CPL Revision, pt. 29.

113. CPL Revision, pt. 29.

114. *Id.*

115. Sometimes the court refuses to accept a case without giving a written verdict. Without such a verdict, the plaintiff cannot prove that he has already tried to file a case in the court, and this right to litigation may be endangered. However, the new revised CPL requires a written verdict, hence the plaintiff can have such proof.

116. See generally THE WORLD BANK, *supra* note 1.

117. See John Copeland Nagle, *How Much Should China Pollute?*, 12 VT. J. ENVTL. L. 591, 591-92 (2011).

and cleanup is taken, rather than compensation. Especially, when there is only damage to the environment, but no individual loss, cleanup or restoration is an important step towards damage assessment and compensation.<sup>118</sup>

It may not be surprising that the interviews we held all confirmed that the most important player in demanding restoration after environmental pollution is the government.<sup>119</sup> Historically many enterprises involved in heavy industry were—and to a large extent still are—State-owned enterprises.<sup>120</sup> This may have disadvantages when it comes to the incentives of public authorities to “go harsh” on polluters, but it also leads to an acceptance that the government may be responsible for historic pollution, and therefore, it may be the primary party who should take action to clean up especially historically polluted sites.<sup>121</sup> When referring to the government in China, this can either be the central government or the local authorities, depending upon the division of competences. However, usually the government only takes cleanup action in response to emergency situations; longer-term restoration does not take place.<sup>122</sup>

However, there may be situations in which the government will attempt to shift costs to polluters. The State Council initiated a policy entitled “from two to three.”<sup>123</sup> Policymakers advocated for changing Chinese industry from a heavy secondary industry to a less polluting tertiary industry.<sup>124</sup> This policy entails identifying soil pollution after the industry is relocated, and restoring the soil quality given the changing use of the site.<sup>125</sup> In some cases, local governments undertake the

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118. Restoration has been widely accepted as the primary instrument to assess natural resources/ecological damage. *See generally* Cross 1989, *supra* note 85; Cross 1993, *supra* note 85; Kanner & Nagy, *supra* note 85.

119. Interview with Prof. Wang Jin, *supra* note 89.

120. *Id.*

121. Interview with a Representative, Ministry of Environmental Protection (MEP), in Beijing, China (Aug. 23, 2011) [hereinafter Interview with MEP Rep.] (on file with authors).

122. *See* Interview with Prof. Wang Canfa, *supra* note 30.

123. Interview with MEP Rep., *supra* note 121.

124. *Id.*

125. JIAN XIE & FASHENG LI, THE WORLD BANK, OVERVIEW OF THE CURRENT SITUATION ON BROWNFIELD REMEDIATION AND REDEVELOPMENT IN CHINA 4-5 (2010), *available at* <http://www-wds.worldbank.org/external/default/>

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restoration themselves and pass on the restoration costs in the land transfer fees, or in the alternative, require the redevelopers (to whom the land use rights have been transferred) to restore costs under the government's supervision.<sup>126</sup> The restoration at the Beijing Hongshi Paint Plant site provides a good illustration. That site once housed a pesticide plant that was later transformed into a paint plant. Site assessment showed that the contaminated soil amounted to 140,000 cubic meters.<sup>127</sup> Following the plant's relocation, the government asked for bids for its redevelopment. During the bidding process, the winning bidder is required to prepare and implement a restoration plan in accordance with the contaminated soil disposal plan, as formulated by the Beijing Environmental Protection Bureau. As a result, the developers spent tens of millions RMB on soil remediation.<sup>128</sup>

This flexibility allows the government to use administrative law to require the polluter to conduct more risk assessment and to cleanup the sediment.<sup>129</sup> This option also means that the nature of the remedies used in practice, specifically in soil pollution cases, are often more administrative<sup>130</sup> or economic<sup>131</sup> in nature than classic tort law remedies.<sup>132</sup> The remedies applied in practice will be further discussed below.<sup>133</sup>

SWPPL is a statute that expressly allows public authorities to take responsive action to pollution. Article 55 provides:

An entity that discharges hazardous wastes shall dispose hazardous wastes according to relevant provisions of the State, and shall not dump or pile up them without approval; those that [do not] treat hazardous wastes shall be ordered to get right within the time limit by the environmental protection

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d/PDF/579530ESW0P1191se0situation0EN0Full.pdf.

126. Interview with MEP Rep., *supra* note 121.

127. XIE & LI, *supra* note 125, at 23.

128. *Id.*

129. Interview with MEP Rep., *supra* note 121.

130. *Id.* (discussing forcing polluters to restore the polluted environment).

131. *See id.* (discussing passing on cleanup costs to the developer of the site).

132. *See generally* TLL.

133. *See infra* part II.B.f.

administrative departments of the people's governments at or above the county level; if an entity fails to treat within the time limit or in accordance with relevant provisions of the State, another entity shall be commissioned to carry out the treatment by the environmental protection administrative departments of the people's governments at or above the county level, and the expenses incurred therefrom shall be undertaken by the entity that discharges hazardous wastes.<sup>134</sup>

This provision allows the agencies to independently treat the waste and redirect any incurred costs to the polluter.<sup>135</sup> However, China's government may not be willing to apply this provision for fear that collecting costs from polluters will be too difficult.<sup>136</sup>

This first item, being who usually takes action in case of damage to the environment, already shows a few typical features of the compensation system in China. Given the historic responsibility of State-owned enterprises (SOEs), the government's role is well-defined.<sup>137</sup> Second, public authorities, realizing that it may be difficult to recover costs from polluters, may be unwilling to accept such measures.<sup>138</sup> Third, public authorities will usually target emergency measures or new development possibilities of the polluted sites rather than long-term environmental protection goals.<sup>139</sup> Fourth, original remedies have been historically sought, including passing costs on to developers.<sup>140</sup> Historically, more attention has been given to water and air pollution, while soil pollution, which often manifests itself only after decades, especially when the polluted sites are not redeveloped, is largely neglected.<sup>141</sup> The seriousness

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134. SWPPL, art. 55.

135. Interview with Prof. Wang Canfa, *supra* note 30.

136. *Id.*

137. Interview with Prof. Wang Jin, *supra* note 89.

138. A big market may be created by the soil restoration, but three obstacles prevent its development. See [Soil Restoration May Accelerate A Huge Market, But Three Obstacles Prevent Its Development], CHINESE DAILY ECON. NEWS (July 29, 2013), <http://money.163.com/13/0729/02/94TRP0TA00253B0H.html> (China).

139. Interview with Prof. Wang Jin, *supra* note 89.

140. Interview with MEP Rep., *supra* note 121.

141. *Id.*



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of China's soil pollution situation has only recently gained public attention.<sup>142</sup> In cases where contaminated sites have been remediated, there is often wide media coverage and redevelopment. For example, the remediation at the sites for the Shanghai 2010 Expo, the Beijing No. 3 Chemical Plant, and the Beijing Hongtushi Paint Plant gained expansive public attention.<sup>143</sup>

### b. Dispute Resolution

An environmental accident may lead to contentious disputes between polluters and victims, and the manner in which to resolve such disputes is an important issue. Liability rules discussed in the theoretical part of this article are mainly relevant when a dispute ends up in court. However, in practice, only a small fraction of disputes actually reach the court.<sup>144</sup>

Literature demonstrates that a three-step procedure is involved when citizens develop grievances and claims from accidents.<sup>145</sup> The citizens first identify the accidents (naming); then attribute them to other parties (blaming); and finally seek remedies from those parties (shaming).<sup>146</sup> When citizens suffer grievances (losses), they initially attempt to negotiate with the blamed party. If negotiation fails, a small percentage of citizens will involve third parties to seek a remedy.<sup>147</sup> In China, such a remedy could be either a legal or a political action (including complaints and petitions to enforcement authorities, petitions to higher levels of government, media involvement and collective actions).<sup>148</sup> Of the two options, parties do not often seek legal

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142. See generally XIE & LI, *supra* note 125.

143. XIE & LI, *supra* note 125, at 5.

144. Zhao, *supra* note 12, at 174.

145. William L.F. Felstiner et al., *The Emergence and Transformation of Disputes: Naming, Blaming, Claiming*, 15 LAW & SOC'Y REV. 631, 635-37 (1980).

146. *Id.*

147. *Id.*

148. Jun Ma, *The Rise of Social Accountability in China*, 71 AUSTL. J. PUB. ADMIN. 111, 113 (2012); Benjamin van Rooij, *The People vs. Pollution: Understanding Citizen Action Against Pollution in China*, 19 J. CONTEMP. CHINA 55, 57 (2010) (explaining that a lot of recent literature has focused on how victims and the public act against pollution in China) [hereinafter van Rooij, *The People vs. Pollution*], available at [http://www.cerium.ca/IMG/pdf/People\\_](http://www.cerium.ca/IMG/pdf/People_)

action.<sup>149</sup> It is reported that there were 4453, 1545 and 2136 civil litigations against polluters in 2004, 2005, and 2006, respectively.<sup>150</sup> In 2006, the Environmental Protection Bureau received 616,122 pollution-related complaints and petitions from citizens.<sup>151</sup> Reasons for Chinese citizens' unwillingness to use legal action for solving pollution disputes include cultural characteristics<sup>152</sup> and institutional and practical barriers to litigation.<sup>153</sup> Even when the cases finally reach the court, the vulnerability of judges to political pressure, uncertainty about the law, and political ambiguity make the trial a complicated procedure, with varying degrees of legal formality and judicial autonomy.<sup>154</sup>

Mediation is another formal option for pollution victims to seek a remedy. There are three types of mediation from which victims can choose.<sup>155</sup> The victims can go to the People's Mediation Committees at the local level, which are known as "Residents' Committees" in urban areas and "Villagers' Committees" in rural areas.<sup>156</sup> Often, these committees solve the disputes between township/community enterprises, solely-owned workshops, and their neighbors.<sup>157</sup> However, concerns exist

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vs\_pollution\_China.pdf. See generally Peter Ho, *Greening Without Conflict? Environmentalism, Green NGOs and Civil Society in China*, 32 DEV. & CHANGE 893 (2001); BRYAN TILT, *THE STRUGGLE FOR SUSTAINABILITY IN RURAL CHINA: ENVIRONMENTAL VALUES AND CIVIL SOCIETY* (2010) (providing an in-depth analysis on people's action in rural areas); Benjamin van Rooij et al., *The Compensation Trap: The Limits of Community-Based Pollution Regulation in China*, 29 PACE ENVTL. L. REV. 701 (2012) [hereinafter van Rooij, *The Compensation Trap*], available at <http://digitalcommons.pace.edu/pelr/vol29/iss3/2>.

149. van Rooij, *The People vs. Pollution*, *supra* note 148, at 61-62.

150. *Id.*

151. *Id.*

152. See *id.* at 63-65 (stating that the "level of income, education, dependency on the polluting source for income, and organization" are all obstacles preventing the citizens from going to court to seek a remedy for the harm they have suffered from pollution).

153. See *infra* part II.B.c.

154. See generally Rachel E. Stern, *On the Frontlines: Making Decisions in Chinese Civil Environmental Lawsuits*, 32 LAW & POL'Y 79 (2010), available at <http://scholarship.law.berkeley.edu/facpubs/1788>.

155. See Zhao, *supra* note 12, at 162-64.

156. *Id.* at 162.

157. *Id.*

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about the quality of the mediators, the balance in the compromise, and the legal basis, as well as the enforcement of mediated agreements.<sup>158</sup> A second possibility for the victim is to seek administrative mediation in the Environmental Protection Bureaus (EPBs) or other public authorities.<sup>159</sup> This option is supposedly a faster and more efficient solution than litigation.<sup>160</sup> While some cases show such advantages in practice, other cases demonstrate the reluctance of public authorities to resolve pollution disputes.<sup>161</sup> One explanation is the lack of financial or human resources of EPBs and the lack of binding force of the mediation outcome.<sup>162</sup> A third option is court-provided judicial mediation; however, this option is sometimes criticized for the strong role given to the judges at the expense of accurately reflecting the opinions of the parties in dispute.<sup>163</sup>

### c. Barriers to Access to Justice

Theory demonstrates that with traditional damage, victims have standing in the court, and some legal designs try to relieve their burdens, such as the reversal of the burden of proof.<sup>164</sup> However, in practice, barriers often prevent effective victims from obtaining adequate compensation. The most important barrier remains whether the court will accept the case.<sup>165</sup> In a Chinese court, the filing division (*li'an ting*) determines the acceptance of a case.<sup>166</sup> As discussed *supra*, according to the CPL, the judges have to render a verdict if a case is rejected.<sup>167</sup> However, in practice, this step is often skipped, thus leaving the plaintiffs without a record of refusal.<sup>168</sup> In practice, a case may be rejected, because an administrative solution is forthcoming, or because law

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158. *Id.* at 163-64.

159. Zhao, *supra* note 12, at 164.

160. *See id.* at 166.

161. *See id.* at 166-70.

162. *See id.* at 169.

163. *Id.* at 170.

164. *See infra* part II.A.c.

165. Interview with Prof. Wang Canfa, *supra* note 30.

166. Stern, *supra* note 12, at 22.

167. *See infra* part II.A.e.

168. Stern, *supra* note 110, at 297.

is not regarded as a proper solution for that dispute.<sup>169</sup> It is even more problematic when cases are politically sensitive.<sup>170</sup> One example where the court refused to accept the environmental case without a written verdict is a petro-chemical case, involving PetroChina.<sup>171</sup> Due to an operational defect in 2005, an explosion occurred at a petro-chemical plant owned by PetroChina Corporation.<sup>172</sup> This explosion and consequent emergency measures led to a large amount of toxic substances spilled into the Songhua River.<sup>173</sup> This led to a temporary water supply shortage in Harbin City, and a direct economic loss up to 1.5 billion RBM.<sup>174</sup> Apart from direct economic loss, the incident led to a significant ecological loss.<sup>175</sup> However, the constrained standing provision in the CPL created a challenge for claims for such loss.<sup>176</sup> After this environmental incident, some experts filed a civil public interest litigation with nature as a joint-plaintiff in the High People's Court of Heilongjiang.<sup>177</sup> However, according to Chinese law, nature does not have standing, and the experts did not suffer a direct loss. Hence, the court did not accept the case.<sup>178</sup>

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169. *Id.*

170. Interview with Kathinka Fürst, Researcher for Amsterdam University, Center for Legal Assistance to Pollution Victims, in Beijing, China (Aug. 23, 2011) (on file with authors).

171. Wang Canfa, *Pondering Over the Incident of Songhua River Pollution from the Perspective of Environmental Law*, in CHINA AND INTERNATIONAL ENVIRONMENTAL LIABILITY: LEGAL REMEDIES FOR TRANSBOUNDARY POLLUTION 291 (Michael Faure & Song Ying eds., 2008).

172. *Id.*

173. Wang Jin & Huang Chiachen, *Reflections from the Transboundary Pollution of Songhua River*, in CHINA AND INTERNATIONAL ENVIRONMENTAL LIABILITY: LEGAL REMEDIES FOR TRANSBOUNDARY POLLUTION 273-74 (Michael Faure & Song Ying eds., 2008).

174. Wang, *supra* note 171, at 291.

175. *See generally* UNITED NATIONS ENVIRONMENT PROGRAM, THE SONGHUA RIVER SPILL CHINA, DECEMBER 2005: FIELD MISSION REPORT (2005), available at [http://www.unep.org/PDF/China\\_Songhua\\_River\\_Spill\\_draft\\_7\\_301205.pdf](http://www.unep.org/PDF/China_Songhua_River_Spill_draft_7_301205.pdf) (offering an overview of pollution's impact on the Songhua River).

176. According to the CPL, the plaintiff should have a direct interest involved in the case. *See* CPL, art. 108(1). However, ecological damage concerns the general public, but not individuals. Hence, obstacles exist when the individual tries to assert a claim on behalf of the environment.

177. Wang & Huang, *supra* note 173, at 273-74.

178. *Id.* at 301.

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Another hurdle for victims to overcome before going to court is the acceptance fee system. According to the CPL, when parties file a civil litigation, they pay an acceptance fee.<sup>179</sup> The fee variation for plaintiffs is usually 0.5% to 4% of the compensation requested.<sup>180</sup> This can be costly for the victims who have already suffered serious harm. Although the law allows an application for a reduction, waiver, or postponed payment of the fee,<sup>181</sup> the reliance on such fees for the court's operational budget creates disincentives to grant waivers.<sup>182</sup> Lawyers are rarely inclined to apply for waivers out of concern that a waiver will bias the judges to their client's disadvantage.<sup>183</sup>

Even in a situation in which the court agrees to hear the plaintiff's case, a plaintiff may still face substantial problems. Specifically, defendants generally possess great industrial, economic, and political power. Moreover, judges are inexperienced in handling pollution cases. Thus, a plaintiff's chance of winning is substantially reduced.<sup>184</sup>

A pollution incident may cause damage to a large number of victims. The CPL provides that if one or more parties, involving two or more individuals, bring an action of comparable subject matter, the separate lawsuits can be tried together as a class action.<sup>185</sup> Class actions make litigation more efficient and create wide publicity of the lawsuit, thus making it easier for the victims to obtain a remedy.<sup>186</sup> However, in practice, there is a trend to restrict the use of class actions. In 2005, the Supreme People's Court issued a *Notice Regarding Problems with the Acceptance of Class Action Lawsuits by the People's Courts*, which limits the number of class action suits.<sup>187</sup> Specifically, courts are given the

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179. CPL, art. 107.

180. Moser & Yang, *supra* note 4, at 10897.

181. *Id.*

182. *Id.*

183. See Briggs, *supra* note 98, at 327.

184. Interview with Prof. Wang Canfa, *supra* note 30.

185. CPL, art. 53, 54.

186. See Zhao, *supra* note 12, at 176-77.

187. [Notice regarding Problems with the Acceptance of Class Action Lawsuits by the People's Courts] (promulgated by the Sup. People's Ct., Dec. 30, 2005, effective Jan. 1, 2006), available at <http://www.chinalaw.gov.cn/article/fgkd/xfg/sfwj/200904/20090400132228.shtml> (China); see Wang, *supra* note 111, at 215.

discretion to divide class action suits if the case would present too many difficulties.<sup>188</sup> Moreover, the notice redirects jurisdiction over class action suits to a lower level. Recently, courts have been inclined to split up class actions in order to increase the charged court fee and the number of cases.<sup>189</sup> Since large class actions are more likely to draw wide media coverage and attract attention from higher-level authorities, the courts prefer dealing with these cases on an individual basis in order to avoid bad publicity.<sup>190</sup> However, solving cases at a local level may strengthen the effects of local protectionism.<sup>191</sup>

Additionally, there may be genuine problems in proving the environmental claims of the victim. Victims of environmental damage face traditional problems such as providing proof of the damage and proving proximate cause.<sup>192</sup> According to Article 66 of the TLL, the burden of proof of exemptions and causation is shifted to the polluter.<sup>193</sup> However, experts have reported that, in practice, proving causation remains a problem. The reversal of proof existed in Chinese law before the promulgation of the TLL.<sup>194</sup> In practice, it was not fully implemented—before the judges decided to shift the burden of proof to the polluters, they sometimes required a different degree of preliminary proof from the plaintiffs.<sup>195</sup> In order to shift the burden, the court could require the plaintiff to prove that the defendant was polluting the environment.<sup>196</sup> In other cases, the victims are required to

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188. van Rooij, *The People vs. Pollution*, *supra* note 148, at 69.

189. Zhao, *supra* note 12, at 177.

190. *See id.*

191. van Rooij, *The People vs. Pollution*, *supra* note 148, at 69.

192. *Id.*; Interview with Prof. Wang Canfa, *supra* note 30.

193. *See infra* part II.A.c.

194. *See* [Supreme People's Court Opinion on Several Issues Concerning the Application of the Civil Procedure Law] Sup. People's Ct. (promulgated July 14, 1992, effective July 14, 1992), art. 74, available at <http://www.lawinfochina.com/display.aspx?lib=law&id=6690&CGid=> (China) ("Parties in a litigation should provide proof for his claims. However, in the following tort cases, if the defendant denies the facts asserted by the plaintiff, the burden of proof lies with the defendant: . . . claims for damages caused by environmental pollution . . .").

195. Moser & Yang, *supra* note 4, at 10897.

196. *See* Joseph McMullin, Comment, *Do Chinese Environmental Laws Work? A Study of Litigation as a Response to the Problem of Fishery Pollution in China*, 26 UCLA PAC. BASIN L. J. 142, 168-71 (2009).

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produce preliminary evidence that shows “it is more likely than not that the defendant polluted the environment and caused the victim harm.”<sup>197</sup> A lower burden scenario requires the satisfaction of three criteria: “[1] the plaintiff has suffered a quantifiable loss; [(2)] this harm has been proven to be caused by pollution and [(3)] in the relevant temporal and physical space there is a possible source of this environmental pollution.”<sup>198</sup> In some extreme cases, the victims are asked to provide direct evidence that the harm was caused by pollution.<sup>199</sup> This variance in practice shows that without clear criteria for determining causation, and practical guidance on applying the burden of proof, a simple provision reversing the burden of proof cannot guarantee its implementation.

**d. NGOs**

The above analysis shows the difficulties for individual victims to resort to judicial protection. Hence, one may expect a positive role for NGOs, which can assist the individual victims to make claims for traditional damage, and can also get involved when only ecological damage is concerned.

In China, environmental NGOs (eNGOs) are still in their early stages of development.<sup>200</sup> In 1978, the China Society for Environmental Sciences established the first eNGO in China.<sup>201</sup> Finally in the 1990s, eNGOs began to develop more rapidly.<sup>202</sup> Reports indicate that there were 2768 eNGOs in China in 2005, and the number grew to 3539 in 2008.<sup>203</sup> According to scholars, changes in political opportunities, mobilized organizational

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197. *Id.*

198. McMullin, *supra* note 196, at 168-71.

199. *Id.*

200. The eNGOs only started to develop rapidly in China after 1994. The number of eNGOs has increased significantly; however, there is still a heavy dependency on the government, and they function quite differently from western eNGOs. See generally Bao Maohong, *Environmental NGOs in Transforming China*, 4 NATURE & CULTURE 1 (2009).

201. *Id.* at 2.

202. *Id.* at 2-3.

203. Zhan Xueyong & Tang Shui-Yan, *Political Opportunities, Resource Constraints and Policy Advocacy of Environmental NGOs in China*, 91 PUB. ADMIN. 2, 4 (2011).

resources, the influence of international communications, the Internet, and media fueled the rapid rise in eNGO growth.<sup>204</sup> Nevertheless, substantial obstacles bar eNGOS from reaching full prosperity. For example, eNGOs face strict legal and administrative barriers, which make their legitimacy a serious concern.<sup>205</sup> Estimates show that only 23.3% of the eNGOs are registered with the Ministry of Civil Affairs and therefore, the remainder are illegal.<sup>206</sup> Of those registered, only a small fraction are registered as social organizations with tax-exemption status; other eNGOs are registered as private non-profit organizations, corporations, or student-led social organizations.<sup>207</sup> Since many of the eNGOs are government-organized (GONGOs), the government is influential in their establishment.<sup>208</sup> In 2009, among the 2768 eNGOs in China, 49.9% were GONGOs, 40.3% were student-led organizations, 2.5% were branches of international NGOs, and only 7.3% were grassroots (citizen-organized) NGOs.<sup>209</sup> This governmental characteristic, coupled with the political and institutional backgrounds, make eNGOs reluctant to take confrontational action.<sup>210</sup> The majority of their efforts target promoting environmental consciousness, sustainable development and public participation.<sup>211</sup> Since 95% of eNGOs practice under the principle of “help, but not make trouble; participate, but not intervene; supervise, but not replace; act, but not violate,”<sup>212</sup> few eNGOs try to help pollution victims through lawsuits and challenges to local firms.<sup>213</sup> Recently, however, eNGOs have begun playing a larger role in the domain of policy advocacy. Such roles include helping victims file

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204. *Id.* at 14; Yang Guobin, *Environmental NGOs and Institutional Dynamics in China*, 181 CHINA Q. 46, 47 (2005). See generally Jiang Ru & Leonard Ortolano, *Development of Citizen-Organized Environmental NGOs in China*, 20 VOLUNTAS 141 (2009).

205. Bao, *supra* note 200, at 7-8.

206. *Id.* at 7.

207. Zhan & Tang, *supra* note 203, at 36.

208. See Bao, *supra* note 200, at 7.

209. Bao, *supra* note 200, at 7; see generally Ru & Ortolano, *supra* note 204.

210. See Bao, *supra* note 200, at 8.

211. *Id.* at 5-6.

212. *Id.* at 8.

213. *Id.*



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lawsuits, challenging local firms, and influencing the function of the State.<sup>214</sup> For instance, some eNGOs provide legal aid to pollution victims and support them in lawsuits against polluters.<sup>215</sup> The Center for Legal Assistance to Pollution Victims (CLAPV) is such an organization.<sup>216</sup> CLAPV reportedly received over 10,000 complaints from citizens during its eight years of operation, and got directly involved in 104 of them.<sup>217</sup>

In addition to supporting individuals to file a lawsuit against polluters, eNGOs recently started to file public interest litigation on their own behalf. For example, the All China Environment Federation, a large GONGO in China, reportedly filed four public environmental litigations in 2011, two of which were successful, and the remainders are still pending.<sup>218</sup> The case, *All China Environment Federation v. Jiangsu Jiangyin Container, Inc.*, was their first environmental civil public litigation to be accepted by the court.<sup>219</sup>

ENGOS' increasing role in environmental litigation is in line with the introduction of the environmental court in some local and intermediate courts in recent years.<sup>220</sup> It is reported that there are eighty-six environmental courts at different levels in China as of October 2011,<sup>221</sup> of which the environmental courts in

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214. Yan Rooij, *The People vs. Pollution*, *supra* note 148, at 70.

215. *Id.*

216. *Id.*

217. *Id.*

218. See generally China Environment Federation, [2011 China Environment Federation Environmental Activist Services Briefing], NETEASE (Feb. 13, 2012), <http://gongyi.163.com/12/0213/11/7Q504CLB00933KC8.html> (China).

219. See generally [Following China's First Environmental Public Interest Litigation: Towards Constitutional "Environmental Rights"], CHINA NEWS (Nov. 28, 2009), <http://www.chinanews.com/gn/news/2009/11-28/1989095.shtml> (China).

220. Some environmental courts have opened the possibility for NGOs to bring public interest litigation. See GAO JIE, NATURAL RES. DEF. COUNCIL, CHINA ENVIRONMENTAL LAW PROJECT, DEVELOPMENT OF ENVIRONMENTAL COURTS IN CHINA: THE PROMISES AND CHALLENGES AND IMPLEMENTATION FOR ENVIRONMENTAL PUBLIC INTEREST LITIGATION (2009), available at <http://www.iucnael.org/zh/component/search/?searchword=environmental+court&ordering=&searchphrase=all>.

221. Minchun Zhang & Bao Zhang, *Specialized Environmental Courts in China: Status Quo, Challenges and Responses*, 30 J. ENERGY & NAT. RESOURCES L. 361, 361 (2012).

the intermediate courts of Guiyang, Wuxi, and Kunming are the most reported.<sup>222</sup> Those courts have issued some documents to guide the scope of the cases that the environmental courts shall accept. Some have mentioned specifically that eNGOs are eligible plaintiffs to file public interest litigations.<sup>223</sup> These documents alleviate the legal obstacles for eNGOs to bring public litigation in some local courts. However, a written rule alone cannot guarantee the sufficient involvement of eNGOs.<sup>224</sup> Despite the rapid introduction of environmental courts nationwide, the caseload for these courts remains low, especially for public interest litigations brought by eNGOs.<sup>225</sup> Moreover, courts remain cautious in accepting controversial cases against powerful defendants.<sup>226</sup>

#### e. Quantifying Environmental Damage

A major problem identified by experts is that technical information, as well as legal norms to adopt an appropriate evaluation of environmental damage, are often lacking. For example, environmental impact assessment studies provide de facto little information on the background level of environmental health (like epidemiological surveys). When background levels are lacking, it becomes obviously difficult to evaluate to what extent emissions from a particular industry would have

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222. See generally GAO, *supra* note 220.

223. See generally GAO, *supra* note 220.

224. See generally Darcey J. Goelz, *China's Environmental Problems: Is a Specialized Court the Solution?*, 18 PAC. RIM L. & POLY J. 155 (2009); Alex L. Wang & Gao Jie, *Environmental Courts and the Development of Environmental Public Interest Litigation in China*, 3 J. CT. INNOVATION 37 (2010) (noting that in spite of the rapid establishment of environmental courts in recent years, many scholars are cautious about the potential achievement of such instruments).

225. Wang & Gao, *supra* note 224, at 42.

226. Although legislation and practice have begun to open up space for public interest litigation, literature holds that the actual effect of this new type of litigation is still moderate. See generally Jingjing Liu, *Environmental Justice with Chinese Characteristics: Recent Developments in Using Environmental Public Interest Litigation to Strengthen Access to Environmental Justice*, 7 FLA. A & M U.L. REV. 229 (2012).

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contributed to the harm.<sup>227</sup> When it comes to quantifying the damage to the environment itself, it is even more difficult. With the exception of assessing the fishery losses caused by water pollution,<sup>228</sup> the standards on how to assess damages are usually missing. For example, the problem associated with soil pollution is not only that prior information on background levels is missing, but also that appropriate standards are lacking.<sup>229</sup> In China, technologies concerning the restoration of polluted sites are to a large extent still being developed, and have only been brought to the market in recent years.<sup>230</sup> In response to this situation, the government has begun developing methodologies to assess pure environmental damage, and has recently commenced trials in some areas.<sup>231</sup>

#### f. Remedies

As discussed earlier, the Chinese legal framework allows different types of remedies for pollution victims,<sup>232</sup> which can be divided into two large categories: (1) compensation; and (2) elimination of harm. The category of “elimination of harm” includes cessation of infringement, elimination of danger, and restoration to original status.<sup>233</sup> Cessation of infringement is an injunction to stop an ongoing infringing action; elimination of danger stops an action that substantially threatens the environment; and restoration remediates the polluted

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227. Interview with Ms. Ma, South China Institute of Environmental Sciences, in Guangzhou, China (Aug. 11, 2011) [hereinafter Interview with Ms. Ma] (on file with authors).

228. [Rules on Calculating Fishery Losses from Water Pollution Accidents] (promulgated by the Ministry of Agric., Oct. 8, 1996, effective Oct. 8, 1996) [hereinafter 1996 Rules on Calculating Fishery Losses], available at [http://www.law-lib.com/law/law\\_view.asp?id=12796](http://www.law-lib.com/law/law_view.asp?id=12796) (China).

229. For example, standards to evaluate the level of restoration for a polluted site. See Interview with Dr. Cai, South China Institute of Environmental Sciences, in Guangzhou, China (Aug. 11, 2011) (on file with authors).

230. See *id.*

231. See [Opinions on Evaluating Environmental Pollution Damage], (promulgated by the Ministry of Env'tl. Prot., May 25, 2011) [hereinafter Opinions on Environmental Pollution Damage], available at [http://www.mep.gov.cn/gkml/hbb/bwj/201105/t20110530\\_211357.htm](http://www.mep.gov.cn/gkml/hbb/bwj/201105/t20110530_211357.htm) (China).

232. See *supra* part II.A.d.

233. Zhao, *supra* note 12, at 187-88.

environment to its original status.<sup>234</sup> However, in practice, judges are reluctant to order an injunction for several reasons. Some injunction orders, such as suspension or closing a factory, are usually regarded as political decisions, so the court rarely uses them without political commitment initiated by the government.<sup>235</sup> Even if the court chooses to order an injunction, such as “cessation of infringement,” this is still too broad a concept to use in practice. Without further clarifying how to accomplish such an injunction, it may still remain unenforced.<sup>236</sup>

Another related issue is that sometimes economic alternatives are used instead of legal remedies. In the early stages of environmental awareness, due to the difficulties of environmental litigation, the goals of plaintiffs were often to obtain compensation indirectly in terms of job opportunities, rather than monetary damages.<sup>237</sup> This arrangement was intended to provide some social security. In those instances, the question of quantification of damage did not arise. However, it was indicated that with the development of the market economy and increasing environmental awareness, this type of socio-economic compensation to victims may no longer work; in that case, quantification of damages becomes an important issue.<sup>238</sup>

Remedies for pure environmental damage are even more problematic. Environmental damage is not specifically addressed in legislation—with the exception of marine pollution—making it unclear whether there is an existing obligation to restore the environment, as well as how the damage should be compensated.<sup>239</sup> As mentioned above, quantification of such

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234. *Id.*

235. Zhao, *supra* note 12, at 188.

236. In *Zhang Changjian et al. v. Pingan Rongping Chemical Plant*, the plaintiffs claimed that the defendant caused serious damage to the biodiversity in the neighborhood, especially fishery losses to the villagers. The court ordered the defendant to compensate the victims and to stop the infringement immediately without further clarifying the manner by which the defendant ought to comply. Several years after the judgment, it was still unclear whether the defendant had taken any action in response to the order. See Wang, *supra* note 111, at 212-17.

237. Interview with Ms. Ma, *supra* note 227.

238. *Id.*

239. See *supra* part II.A.a.

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damage in this case is a major issue.<sup>240</sup> But the MEP has launched an experiment in some provinces and cities with respect to environmental damage assessments, in order to gain experience, which could later be adopted as a comprehensive national system.<sup>241</sup> According to the *Recommendation on Methods of Assessing Environmental Damage*, a restoration-based approach has been implemented to evaluate the pure environmental damage.<sup>242</sup>

Use of a more socio-economic based approach to remedying environmental damage is still prevalent; this is especially noticeable in the case of soil pollution. A restoration claim is usually incited by the relocation of old industries. For instance, the relocation of hundreds of old industrial facilities from Beijing to the city outskirts left behind eight million square meters of brownfields in need of redevelopment.<sup>243</sup> According to the Beijing EPB document, before industrial land is transformed to another use, an environmental impact assessment should be undertaken to determine the extent of the soil pollution, and the polluters should be held responsible for the cleanup.<sup>244</sup> However, in practice, recovery from polluters according to the “polluter pays” principle is not always feasible. The former industrial polluters may have ceased to exist or can no longer afford the costs. Furthermore, polluters are often SOEs, and therefore, the government has no strong incentive to pursue them.<sup>245</sup> Instead of holding the SOEs liable, the government prefers to seek socio-economic remedies from the polluters, such as requesting that they increase investitures to improve the local economy.<sup>246</sup> The government also seeks institutional arrangements for redevelopment where new developers pay a higher price for the development project or are required to undertake restoration

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240. *Id.*

241. See Opinions on Environmental Pollution Damage, *supra* note 231.

242. See *supra* part II.A.d.

243. XIE & LI, *supra* note 125, at 4.

244. See [Notice of the Beijing Environmental Protection Agency on Evaluation of the Soil Environment at Former Industrial Sites] (promulgated by Beijing Env'tl. Prot. Bureau, July 6, 2007) (China).

245. Interview with Prof. Wang Jin, *supra* note 89; Interview with MEP Rep., *supra* note 121.

246. See Interview with Prof. Wang Jin, *supra* note 89.

themselves.<sup>247</sup> One example is the restoration of the Beijing Hongshi Paint Plant site.<sup>248</sup> The legal basis for these transfers is that all land is state-owned or collectively owned, and that the industry only has a use-right of the land.<sup>249</sup> The government can require in the bidding document that the new developers receiving the land-use right take restoration measures.<sup>250</sup>

### C. Summary

The theoretical possibilities for recovering environmental damages in China seem viable, especially since the new TLL reconfirmed a strict liability rule that was already incorporated in special legislation. Moreover, a reversal of the burden of proving exceptions and the absence of causation should lead to conditions in favor of victims in future litigation. However, it is clear that Chinese legislation regarding remedies for environmental harm pay more attention to direct economic losses than to pure environmental damage. Acceptance procedures and a fee system also limit the ability of plaintiffs to receive access to justice.

This was largely confirmed in interviews, which proved that in the case of environmental damage, it is often the government who obtains recoveries for environmental harm, and as discussed above, they do not have a strong incentive to pursue SOEs. NGOs currently play a limited role in litigation, given the huge barriers concerning access to justice, including formal statutory barriers, such as the court's allowance of a case, and problems concerning the expertise and knowledge of the judiciary.

Most remedies are of a socio-economic nature, for example, forcing polluting industries to reinvest in the local economy. There seems to be little focus on long-term restoration of the environment and providing individual restorative justice to victims; victims may even be paid off with relatively small amounts of compensation, thereby not providing incentives for

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247. For some of the examples, see XIE & LI, *supra* note 125, at 21-27.

248. See *supra* part II.B.a.

249. George C.S. Lin & Samuel P.S. Ho, *The State, Land System, and Land Development Processes in Contemporary China*, 95 ANNALS ASS'N AM. GEOGRAPHERS 411, 420 (2005).

250. See, e.g., XIE & LI, *supra* note 125, at 21-27.

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serious investments in preventive technologies. The economic concept that environmental liability provides incentives for polluters to invest in efficient abatement technologies is based on the theory that potential polluters are exposed to the full social costs of their activity, and will hence be sufficiently deterred by a finding of liability.<sup>251</sup> The overview of the practice shows that the probability of the polluter being held liable to pay damages is quite low; in fact, it is often not the polluter, but rather the new developer who is invited to compensate for the harm. Moreover, the amount of paid compensation only seems to be a fraction of the true social losses caused by environmental harm. It is therefore doubtful that, given the current practice, environmental liability can play a preventive role in China.

### III. INSURANCE

This section details possibilities for the implementation of environmental insurance in China. Given the limited scope of environmental liability,<sup>252</sup> it is unsurprising that so far environmental insurance has not played a major role in China. However, if one were to allocate a greater role to liability mechanisms in providing compensation for environmental harm, the question arises as to what extent this liability can actually be covered by insurance. This inquiry is important for victims who may otherwise be confronted with an insolvent—and hence judgment-proof—defendant. The literature also indicates that insolvency will allow polluters to externalize the harm to society, which can lead to under-deterrence.<sup>253</sup>

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251. See DETERRENCE, INSURABILITY, AND COMPENSATION IN ENVIRONMENTAL LIABILITY: FUTURE DEVELOPMENTS IN THE EUROPEAN UNION, 18-50 (Michael Faure ed., 2003) (discussing the economic analysis of environmental liability).

252. See *supra* part II.C.

253. See generally Peter-J. Jost, *Limited Liability and the Requirement to Purchase Insurance*, 16 INT'L REV. L. & ECON. 259 (1996); Mattias K. Polborn, *Mandatory Insurance and the Judgment-Proof Problem*, 18 INT'L REV. L. & ECON. 141 (1998).

## A. Theory

In this part we focus on the possibilities for polluters to obtain environmental insurance. It focuses on general environmental insurance, not insurance for particular risks, such as marine oil pollution<sup>254</sup> or for nuclear liability.<sup>255</sup>

### a. Statutory Background

To what extent does a statutory duty exist to purchase liability insurance? When the extent of the damage can exceed the individual wealth of the injurer, an insolvency problem may arise, justifying the introduction of mandatory insurance.<sup>256</sup> The literature has largely argued in favor of the introduction of environmental liability insurance to guarantee both effective compensation to victims, and avoidance of under-deterrence resulting from the judgment-proof problem.<sup>257</sup> General environmental statutes in China, including the new TLL of 2009,<sup>258</sup> are generally silent on compulsory insurance or other financial guarantees; exceptions only exist for marine oil pollution.<sup>259</sup> Environmental insurance is a new product in China; only recently has the government started a policy to promote the development of the environmental insurance markets. In 2007, the MEP and the China Insurance Regulatory Commission issued a document requiring local authorities to conduct research and

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254. *See infra* part IV.

255. We do not discuss nuclear liability and its insurance in China in this contribution. *See generally* Liu Jing & Michael Faure, *Compensating Nuclear Damage in China*, 11 WASH. U. GLOBAL STUD. L. REV. 781 (2012).

256. When a serious insolvency risk exists, the insured only has incentives to buy insurance up to the amount of his or her assets, rather than for the entirety of the damage caused. In this situation, compulsory insurance will make the insured internalize the entire costs created by him or her. *See* Faure, *supra* note 251, at 181-85; Gerhard Wagner, *(Un)insurability and the Choice Between Market Insurance and Public Compensation Systems*, in *SHIFTS IN COMPENSATION BETWEEN PRIVATE AND PUBLIC SYSTEMS* 110 (Willem H. van Boom & Michael Faure eds., 2007).

257. *See* MICHAEL G. FAURE & TON HARTLIEF, *INSURANCE AND EXPANDING SYSTEMIC RISKS* 211-20 (2003).

258. *See infra* part II.A.a.

259. *See* Faure & Hu, *supra* note 12, at 237.



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experiments on environmental liability insurance.<sup>260</sup> There are also a few voluntary environmental liability insurance programs promoted by some local governments. In 2008 the city of Shenyang promulgated the first local regulation, *Shenyang Regulation on Preventing Pollution from Dangerous Waste*,<sup>261</sup> which is the first local regulation that touched upon environmental liability insurance in China. Under this regulation, insurers are encouraged to establish products to cover environmental liability from dangerous waste, and potential polluters are encouraged to seek such coverage.<sup>262</sup>

**b. Theoretical Insurance Options<sup>263</sup>**

Insurance experts report that insurance coverage for environmental harm in China is theoretically possible on three bases.<sup>264</sup> A general liability insurance policy is the first possibility to which enterprises can subscribe. This type of general liability insurance focuses on industrial accidents, covering environmental damage related to bodily injury, property damage or even pure ecological losses.<sup>265</sup> The broad definition of environmental liability can create difficulties when attempting to differentiate from liability caused by other industrial activities.<sup>266</sup>

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260. See [Guidance on the Development of Environmental Pollution Liability Insurance] (promulgated by the Ministry of Env'tl. Prot. & the China Ins. Reg. Comm'n, Dec. 4, 2007), available at [http://www.zhb.gov.cn/info/gw/huanfa/200802/t20080220\\_118389.htm](http://www.zhb.gov.cn/info/gw/huanfa/200802/t20080220_118389.htm) (China).

261. See *Shenyang Regulation on Preventing Pollution from Dangerous Waste*, *supra* note 67, art. 8.

262. *Id.*

263. We realize that this already touches upon practice. However, in this part we describe the insurance policies that could theoretically cover environmental harm. In part III.B *infra*, we discuss to what extent these policies are used in practice, and the problems that arise in that respect.

264. Interview with Mr. Christian Lahnstein, Munich Reinsurance Company, in Munich, Germany (Sept. 14, 2011) [hereinafter Interview with Mr. Christian Lahnstein] (on file with authors).

265. General liability insurance is used broadly to cover environmental liability. See BIO INTELLIGENCE SERVICE, STUDY ON THE IMPLEMENTATION EFFECTIVENESS OF THE ENVIRONMENTAL LIABILITY DIRECTIVE (ELD) AND RELATED FINANCIAL SECURITY ISSUES, 53-54 (2009), available at <http://ec.europa.eu/environment/legal/liability/pdf/ELD%20Study%20November%202009.pdf>.

266. Interview with Mr. Christian Lahnstein, *supra* note 264.

Therefore, the expert holds that a general liability insurance policy should cover, and hence cannot exclude pollution damage from its coverage.<sup>267</sup> It is important to note that because general liability insurance only covers accidents, it excludes gradual pollution.

A second possibility is coverage under product liability insurance. Generally, a product liability policy does not discriminate between environmental damage and other damages.<sup>268</sup> Many substances have the potential for far-reaching environmental harm, such as those related to food or agricultural products. Even gradual pollution could be covered under this policy.<sup>269</sup>

The third option involves specific environmental insurance policies, and as opposed to the first two options, does not focus exclusively on environmental harm. These policies would cover third-party liability, rather than harm to the insured site itself.<sup>270</sup> An environmental liability policy would likely cover liability for damage from the premises itself, as well as operations with defined extensions; this extends beyond the narrow coverage for industrial accidents under more traditional general liability insurance policies.<sup>271</sup>

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267. *Id.*

268. Interview with Mr. Christian Lahnstein, *supra* note 264.

269. *Id.*

270. Specific environmental insurance is also broadly used in the United States and Europe. See BIO INTELLIGENCE SERVICE, *supra* note 265, at 53-54; see also, Dan R. Anderson, *Development of Environmental Liability Risk Management and Insurance in the United States: Lessons and Opportunities*, 2 RISK MGMT. & INS. REV. 1, 11-14 (1998).

271. First-party insurance and liability insurance are two important types of insurance. In the first-party insurance system, compensation is awarded directly by the insurer to the victim. It is the victim who buys the insurance, and the insurer pays as soon as damage occurs, making the damage the insured risk. See Michael Faure & Veronique Bruggeman, *Catastrophic Risks and First-party Insurance*, 15 CONN. INS. L.J. 1, 11-14 (2008). Liability insurance (third-party insurance) covers claims of victims against injurers who are liable in damages. See *id.* at 9. So the covered risk in liability insurance is the insured's liability for damage caused to other parties. See Gerhard Wagner, *Tort Law and Liability Insurance*, in TORT, LAW AND ECONOMICS 377 (Michael Faure ed., 2009). Direct insurance has some similarity to first-party insurance and liability insurance. In a direct insurance policy, the potential injurer who possesses a particular site additionally seeks insurance coverage for the benefit of third-parties who could suffer damage resulting from that particular site. Unlike the

## B. Practice

### a. Insolvency Risk—Compulsory Insurance?

The first issue of importance is that experts report that, in some cases, victims are unable to recover when the defendants declared bankruptcy.<sup>272</sup> In that event, the government intervened and picked up the bill, thereby disincentivizing the polluter from increasing its own costs by buying insurance coverage.<sup>273</sup> However, this may not be a problem in all pollution cases. For example, an insolvency risk may not arise in the case of large SOEs. It is also reported that because a stringent liability rule is lacking,<sup>274</sup> industry has no incentive to demand liability insurance.<sup>275</sup> To the extent that a judgment-proof problem arises, compulsory insurance—or at least a requirement of financial securities for selected industries that pose high pollution risks—could solve this problem.<sup>276</sup>

There is some debate concerning the introduction of compulsory insurance. At the policy level, the concern is that policymakers are attempting to introduce compulsory insurance while simultaneously forcing high-polluting industries to pay pollution fees.<sup>277</sup> Some experts propose to assess environmental risks before the operation starts by using an environmental impact assessment, and subsequently requiring the permitting of polluters to include financial guarantees.<sup>278</sup> In practice, some

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pure first-party insurance funded by victims, in a direct insurance policy the polluters pay for the premium. The difference between direct insurance and liability insurance is that the trigger of coverage under direct insurance is the materialization of the insured risk rather than liability. See FAURE & HARTLIEF, *supra* note 257, at 220-21.

272. Interview with Prof. Wang Canfa, *supra* note 30.

273. *Id.*

274. This is doubtful, since even before the entry into force of the TLL, many specialized environmental laws contained strict liability. See *supra* part II.A.b. However, it is probably not the lack of strict liability, but rather the low likelihood of being found liable by a court, which reduced the liability risk.

275. Interview with MEP Rep., *supra* note 121.

276. *Id.*; Interview with Prof. Wang Canfa, *supra* note 30; Interview with Prof. Wang Jin, *supra* note 89.

277. Interview with Prof. Wang Jin, *supra* note 89.

278. *Id.*

industries with high environmental risks are also required to seek insurance coverage in some local areas.<sup>279</sup> However, some argue that charging a pollution fee from industry, which needs to be paid by permitted installations,<sup>280</sup> and simultaneously requiring the purchase of insurance, makes polluters pay twice. It is suggested that part of the pollution fees paid by industry should be used to purchase environmental liability insurance.<sup>281</sup> Support for this proposition can be found in some local areas where the government has provided subsidies to pay environmental insurance premiums financed from the pollution fee charged from the enterprises.<sup>282</sup> In other areas, the government links environmental insurance with other environmental subsidies and green credit policies.<sup>283</sup>

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279. For example, in Wuxi (a city in Jiangsu Province), some enterprises have been obliged to buy environmental insurance since 2011, depending on its location and type. See [Opinions on Implementation of Environmental Liability Insurance in Wuxi] (promulgated by the Gov't Office of Wuxi, Feb. 22, 2011) [hereinafter *Environmental Liability Insurance in Wuxi*], available at <http://www.wuxi.gov.cn/zfxxgk/szfxxgkml/zcfg/szfbgswj/5967445.shtml> (China). A compulsory system was also adopted in Changsha and Guangxi. See [Rules on the Management of Environmental Risk Enterprises] (promulgated by the Changsha Env'tl. Prot. Agency, Aug. 10, 2009) [hereinafter *Changsha Rules*], available at [http://www.changsha.gov.cn/xxgk/gfxwj/szfgzbm/shbj/201007/t20100701\\_82840.html](http://www.changsha.gov.cn/xxgk/gfxwj/szfgzbm/shbj/201007/t20100701_82840.html) (China); [Opinions on the Implementation of Environmental Pollution Liability Insurance] (promulgated by the Guangxi Env'tl. Prot. Bureau, Aug. 4, 2011), available at [http://www.gxepb.gov.cn/xxgkml/ztfh/hjglywxx/wrfz/201108/t20110823\\_6007.html](http://www.gxepb.gov.cn/xxgkml/ztfh/hjglywxx/wrfz/201108/t20110823_6007.html) (China).

280. Interview with Prof. Wang Jin, *supra* note 89.

281. *Id.*

282. In China, the polluters need to pay a pollution fee. Sometimes it is argued that asking the polluters on the one hand to pay for a pollution fee, and on the other hand to buy the environmental insurance, in fact makes them pay twice. Thus, in some local areas, parts of the pollution fees are used to provide a subsidy to the enterprises that buy environmental liability insurance. Wuxi engages in this practice. See *Environmental Liability Insurance in Wuxi*, *supra* note 279.

283. Sichuan is an example. According to a Sichuan Environmental Protection Bureau document, the government, when deciding to offer subsidies on pollution control, should give priority to companies who bought environmental liability insurance. The attendance of environmental liability insurance is also a criterion for examining green credit performance. See [Opinion on the Implementation of the Environmental Pollution Liability Insurance Policy] (promulgated by the Sichuan Env'tl. Prot. Agency, Nov. 30, 2010), available at [http://www.schj.gov.cn/cs/zcfg/jjzc/201212/t20121221\\_11217.html](http://www.schj.gov.cn/cs/zcfg/jjzc/201212/t20121221_11217.html) (China).

### b. Environmental Insurance in Practice

It is generally held that environmental insurance in China is underdeveloped, due to polluters' low liability risks and non-compulsory insurance options.<sup>284</sup> The reasons for this have already been mentioned repeatedly: (1) polluters largely can count on the government to intervene in the restoration of polluted sites; (2) liability risks are low; and (3) with the exception of marine oil pollution—the purchase of insurance is not compulsory; thus, industry has little demand to purchase environmental insurance.<sup>285</sup> Accordingly, an insurance market to provide products covering environmental risks has barely been developed in China. In practice, a variety of insurance products that could cover environmental risks<sup>286</sup> can indeed also be observed. The following paragraphs provide a brief overview of these mechanisms.<sup>287</sup>

First, the main insurance product covering environmental risks is the general liability insurance policy, which was extended to cover pollution risks three to four years ago. However, pollution is not clearly defined in the policy, and the scope may be limited; there is usually a sublimit on the coverage for pollution damage, and moreover, the general liability insurance only covers accidents, and excludes gradual pollution.<sup>288</sup>

Second, Chinese insurers also started offering stand-alone environmental liability insurance after 2007. This type of insurance mainly covers personal injury and property damage caused by pollution, and does not cover specifically pure ecological damage.<sup>289</sup> The cleanup costs—excluding cleanup at polluters' own sites—can be covered either directly under this policy<sup>290</sup> or

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284. Interview with Prof. Wang Jin, *supra* note 89.

285. *See supra* part II.B.a.

286. *See infra* part III.A.b.

287. Interview with Ms. Zhang Jing and Ms. Jean Wu, Munich Reinsurance Company, in Beijing, China (Sept. 15, 2011) [hereinafter Interview with Beijing Branch of Munich Reinsurance Reps.] (on file with authors).

288. *Id.*

289. *Id.*

290. *See* CHINA CONTINENT PROP. & CASUALTY INS. CO., [ENVIRONMENTAL POLLUTION LIABILITY INSURANCE TERMS], available at <http://www.iachina.cn:8080/iaclause/clause/html/20091207041357078.html> (China).

via an added clause.<sup>291</sup> However, usually cleanup costs are covered only to the extent that the cleanup may prevent further personal injury or property damage, and the cleanup costs to protect the environment itself are not covered.<sup>292</sup> The restoration costs are usually also excluded.<sup>293</sup>

The insurance policy uses claims-made clauses, which is customary in environmental liability coverage. Under a claims-made policy, the claim for damages has to be received by the insured or his insurer within the period of insurance coverage.<sup>294</sup> The policy may also require that the incident leading to the pollution have occurred within a certain retroactive period.<sup>295</sup> This increases the predictability to the insurers. Some critics argue that claims-made policies could dilute the deterrent function of liability law.<sup>296</sup> As far as premiums are concerned insurers make a distinction between companies that constitute high environmental risks and companies that do not. For high-risk companies, the insurer will usually appoint an expert to do a risk assessment, with which the to-be-insured company normally cooperates.<sup>297</sup> For lower risk companies, the premium will be based on a fixed premium rating table.<sup>298</sup> The compensation rate

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291. See [CHINA PACIFIC PROPERTY INSURANCE CO., LTD., ENVIRONMENTAL LIABILITY INSURANCE, CLEAN UP COSTS CLAUSE [hereinafter CPIC CLEAN UP COSTS CLAUSE], available at <https://www.cpic.com.cn/cx/upload/Attach/infordisclosure/50867389.pdf> (China).

292. Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

293. See CPIC CLEAN UP COSTS CLAUSE, *supra* note 291. A distinction is made between cleanup costs and restoration costs. The costs of measures to cleanup pollutants on insured sites are covered, while the costs of measures taken to restore the environment to its initial status are not.

294. See Martin Katzman, *Pollution Liability Insurance and Catastrophic Environmental Risk*, 55 J. RISK & INS. 75, 87 (1988) (explaining the claim-made policy).

295. See China Pacific Property Insurance Co., Ltd. [ENVIRONMENTAL LIABILITY INSURANCE], art. 3, available at <https://www.cpic.com.cn/cx/upload/Attach/infordisclosure/50885015.pdf> (China).

296. See Kenneth S. Abraham, *Cost Internalization, Insurance, and Toxic Tort Compensation Funds*, 2 VA. J. NAT. RES. L. 123, 131 (1982).

297. Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

298. *Id.*

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is still low, but experts believe that it could increase in the future.<sup>299</sup>

A third type of policy is the pollution-site liability insurance policy, a third-party insurance policy providing coverage for damage to third parties, as well as remediation costs for polluted sites.<sup>300</sup> This type of policy is still quite rare in China, although some companies, such as Huatai Insurance Company, provide this insurance.<sup>301</sup> An analysis of their policy conditions clarifies the policy's structure.

Two types of risk can be covered under Huatai Insurance Company's policy: (1) new pollution; and (2) pre-existing pollution. The covered risk is defined as loss that "the insured is legally liable to pay as a result of [c]laims, remediation costs, and associated legal defense expenses" arising out of a "pollution condition on, at, under or migrating from the covered location(s)."<sup>302</sup> This loss should be claimed or first discovered during the policy period, and reported to the insurer during the policy period or extended reporting period. The difference between new pollution and pre-existing pollution is that under the title of "new pollution," the pollution conditions should first commence during the policy period; while under the title of "pre-existing pollution," the pollution conditions should be first commenced prior to the inception date of the policy period.<sup>303</sup>

This provision uses the clause "the insured is legally liable to pay," showing that it is formally still liability insurance. The term "claim" is defined broadly to include "government action(s), suits or other actions alleging responsibility or liability on the part of the insured for bodily injury, property damage, or

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299. *Id.*

300. See Robert M. Horkovich et al., *Site Pollution Liability Insurance*, in ENVIRONMENTAL LIABILITY AND INSURANCE RECOVERY 506 (David L. Guevara & Frank J. Deveau eds.) (2012); Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

301. See HUATAI INSURANCE COMPANY OF CHINA, LIMITED PREMISES POLLUTION LIABILITY INSURANCE 4-14 (2008) [hereinafter HUATAI PREMISES INSURANCE], available at <http://www.ehuataisz.com/uploadfile/200806/Premises%20Pollution%20Liability%20Insurance.pdf>.

302. *Id.* at 4 (internal quotation marks omitted).

303. HUATAI PREMISES INSURANCE, *supra* note 301, at 4-5.

remediation costs arising out of pollution conditions. . . .”<sup>304</sup> In other words, this policy covers both traditional third-party liability and remediation costs on premises for which the insured are legally liable to pay. Note that pure environmental damage is also covered under this policy.<sup>305</sup> The term “property damage” is defined to include “natural resource damages,”<sup>306</sup> which means “damages for injury to or damage sustained by or destruction or loss of fish[,] wildlife[,] biota[,] land[,] air[,] water[,] groundwater[,] drinking water supplies[,] and other similar resources belonging to[,] managed by[,] held in trust by[,] appertaining to[,] or otherwise controlled by any government or local government authority.”<sup>307</sup> “Remediation costs” are defined as “reasonable expenses incurred to investigate, quantify, monitor, mitigate, abate, remove, dispose, treat, neutralize, or immobilize pollution conditions to the extent required by environmental law.”<sup>308</sup> Thus, unlike the environmental liability policies, by definition the coverage under premise pollution liability insurance is much broader. However, since the clause requires the costs to be what the insured is legally liable to pay, the extent to which the broad provision under this policy will lead to broad compensation will still depend on the liability provisions and their explanations.

Huatai Insurance Company started to provide such a product in 2008. However, three years after beginning to provide this type of insurance, it was reported that the progress was still slow, and the insured were mainly enterprises with foreign-related issues.<sup>309</sup>

In addition to pollution-site liability insurance, there are some other similar products with less extensive coverage. These products cover cleanup costs on polluters’ own premises as added clauses to environmental liability insurance policies. The added

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304. *Id.* at 6 (internal quotation marks omitted).

305. *Id.* at 8.

306. *Id.*

307. *Id.*

308. *Id.* (internal quotation marks omitted).

309. See Xie Liu, [*How to Promote Environmental Liability Insurance?*], CHINA INSURANCE NEWS NETWORK (June 8, 2011), <http://www.sinoins.com/101288/101475/59505.html> (China).



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clauses provided by ChangAn Insurance<sup>310</sup> and Ping An Insurance<sup>311</sup> are two examples of environmental third-party liability insurance policies, which use an added clause to provide coverage for cleanup costs on the insured's land.

### 1. Product Liability Insurance

As discussed above, traditional product liability policies do not exclude pollution and hence, in theory, provide broad coverage.<sup>312</sup> Of course the condition is that the environmental damage must be linked to a product for which the insured is liable. In that case, distinct from a general liability insurance policy, gradual damage would be covered. However, in practice there has so far been no case of a claim for environmental damage under product liability coverage. This, therefore, remains a largely theoretical possibility.<sup>313</sup>

### 2. Property Insurance

There is also general property damage insurance. This covers first-party damage to the insured's site. In principle, pollution risks are also covered by such a property all-risk policy, unless particular damage would be explicitly excluded.<sup>314</sup> This could be the case if the property damage to the insured's site is caused by gradual erosion or pollution (i.e., excluding sudden pollution events and pollution events considered unforeseeable by the insurer).<sup>315</sup>

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310. See [*Environmental Pollution Liability Insurance Terms for Workplace Cleanup Costs*], CHANGAN LIABILITY INS. CORP., <http://www.iachina.cn:8080/iaclause/clause/html/20091207035605187.html> (last visited Nov. 21, 2013) (China).

311. See PING AN POLLUTION LIABILITY INSURANCE, [CLEANUP COSTS OF ON-PREMISES SITES], available at <http://property.pingan.com/upload/20100701094634255.pdf> (China).

312. See *supra* part III.A.

313. Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

314. Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

315. *Id.*

This shows that there are quite a few possibilities to purchase environmental insurance on the market, either explicitly or implicitly, via general—liability or property—insurance policies. However, it also shows that the number of companies active in the environmental insurance market is limited.<sup>316</sup> For instance, China started experimenting in some local areas to develop the environmental insurance market after 2007.<sup>317</sup> It is reported that the revenue from environmental liability insurance only accounted for 0.015% of the total liability insurance revenue in these experimental areas in 2009.<sup>318</sup> In Shenzhen, one of the experimental areas, only eight enterprises bought such insurance products in 2009.<sup>319</sup> Professor Wang Jin confirmed that only some larger insurance companies provided explicit coverage for environmental damage, whereby the type of coverage provided by the different companies is quite similar.<sup>320</sup> There would only be a few differences as far as exclusions of liability, scope of coverage or premiums are concerned.<sup>321</sup>

### c. Difficulties and Limits

Experts, insurance, and reinsurance companies all mention particular difficulties with the provision of environmental insurance in China.<sup>322</sup> This should not come as a surprise given the relatively small number of insurance companies offering those policies and the relatively small number of insured. Insurers and reinsurers mention adverse selection as an

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316. See [THE PATHWAY AND REGIME FOR THE DEVELOPMENT OF ENVIRONMENTAL LIABILITY INSURANCE IN CHINA] (2011) [hereinafter PATHWAY FOR ENVIRONMENTAL LIABILITY INSURANCE], available at <http://www.cdrf.org.cn/uploads/soft/PDF/20120329/baogao99.pdf> (China) (summarizing the companies that provide environmental liability insurance up until 2009).

317. *Id.*

318. Lijing Liang Jialin, [The Ministry of Environmental Protection Tries to Promote Compulsory Environmental Liability Insurance], SINA (July 9, 2012), <http://green.sina.com.cn/2012-07-09/103024739500.shtml> (China).

319. *Id.*

320. Interview with Professor Wang Jin, *supra* note 89.

321. *Id.*

322. Interview with Professor Wang Jin, *supra* note 89; Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

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important problem.<sup>323</sup> Adverse selection is the phenomenon caused by information asymmetry.<sup>324</sup> Limited information on the side of insurers makes insurance particularly attractive for high-risk companies, which could eventually endanger the insurability of risks.<sup>325</sup> In China, the problem could arise that mainly high-risk companies are interested in purchasing environmental insurance.<sup>326</sup> The insured on their side also report that the amount of coverage would be too low, because insurance coverage is often only provided for 1 to 2 million RMB, and only in exceptional cases for 10 to 300 million RMB (\$1.61 million to \$48.17 million).<sup>327</sup> Those amounts may indeed be rather low by international standards.<sup>328</sup> Moreover, not only are there complaints of low coverage, but premiums are also considered to be high.<sup>329</sup> The premium would be around 6% to 8% of the insured amount.<sup>330</sup> Compared to on average 0.3%, which in the case of traditional liability insurance would be considered quite high.<sup>331</sup> Given the difficulty of predicting environmental risks, insurers would likely, as the literature predicts, ask for an additional risk premium to cope with their insurer ambiguity.<sup>332</sup> But these high premiums may not generate any willingness to pay on the side of firms.<sup>333</sup>

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323. Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

324. See George A. Akerlof, *The Market for "Lemons": Quality, Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488, 490-91 (1970).

325. See generally Michael Faure, *Is Risk Differentiation on European Insurance Markets in Danger?*, 14 MAASTRICHT J. EUR. & COMP. L. 83 (2007); R. Guy Thomas, *Some Novel Perspectives on Risk Classification*, 32 GENEVA PAPERS RISK & INS. – ISSUES & PRAC. 105 (2007).

326. Interview with Beijing Branch of Munich Reinsurance Reps., *supra* note 287.

327. *Id.*

328. *Id.*

329. Interview with Prof. Wang Canfa, *supra* note 30.

330. Interview with Professor Wang Jin, *supra* note 89.

331. *Id.*

332. See generally Howard Kunreuther et al., *Insurer Ambiguity and Market Failure*, 7 J. RISK & UNCERTAINTY 71 (1993).

333. Interview with Professor Wang Jin, *supra* note 89.

### C. Summary

As far as the ability of environmental insurance to provide adequate compensation for environmental harm in China is concerned, the first and major problem is the lack of an adequate institutional and statutory background for creating a market for environmental insurance. In this respect, we not only refer to the absence of an obligation to purchase liability insurance,<sup>334</sup> but also to the fact that most pollution risks are covered by the government, and that the probability that polluters will face environmental liability is generally low. This explains a low demand for environmental insurance.

While on the one hand one may notice quite a few theoretical possibilities for environmental insurance coverage in China, on the other hand there are few insurance companies offering environmental insurance, and also few companies interested in purchasing it. Moreover, those who are interested are probably the high-risk ones, thus creating a serious adverse selection problem. Despite the fact that a few specific environmental liability policies have been developed to cover environmental risks, experts emphasize the possibility of using general liability insurance and product liability policies to cover environmental liability. General liability insurance and product liability policies remain largely theoretical possibilities, since they are not usually used in practice. General liability policies often exclude pollution coverage; environment-related claims are rare in practice under product liability policies. However, as discussed *supra*, it is not always easy to differentiate environmental liability from other liability covered under general liability policies or product liability policies. Hence, the expert holds that those policies should be developed to cover environmental liability in China as well. The only positive element one can mention is that apparently the Chinese insurance and reinsurance markets have developed a variety of environmental products that in principle are able to cover environmental risks. Premiums today are still relatively high, but increased possibilities of risk assessment may reduce uncertainties and hence premiums. The crucial issue is

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334. With the exception of the case of marine environmental pollution to be discussed *infra* part IV.

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that an institutional environment should be created in which a demand of environmental insurance can emerge. In that case, China apparently has sufficient possibilities to offer the necessary insurance coverage.

#### IV. COMPENSATION FOR VESSEL-INDUCED MARINE OIL POLLUTION

As discussed earlier, marine oil pollution deserves a separate discussion since it is one of the few instances where the liability and compensation instruments for natural resources damage seems to be working adequately. This may be explained by the fact that some international conventions that China has joined oblige Member States to introduce a financial security—like compulsory insurance—for sea-going vessels to cover the risks of marine pollution.<sup>335</sup> Moreover, a long tradition of coverage via the so-called protection and indemnity clubs for ships, to cover environmental pollution risks, exists in the field of marine pollution.<sup>336</sup> The discussion on marine oil pollution in China will follow the same structure as in the above sections. The legal framework will be briefly presented, followed by the practice of compensation for oil pollution in China.

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335. William Tetley, *Uniformity of International Private Maritime Law—The Pros, Cons, and Alternatives to International Conventions—How to Adopt an International Convention*, 24 TUL. MAR. L.J. 775, 829-53 (2000) (appendix B of international maritime conventions indicating whether China has signed on). See *infra* part IV.A.a.

336. See generally T.G. Coghlin, *Protection & Indemnity Clubs*, LLOYD'S MAR. & COM. L. Q. 403 (1984) (offering an introduction to protection and indemnity clubs).

## A. Theory

### a. Scope of Compensable Damage and Quantification of Damage

The MEPL is the basic law in the field of marine environmental protection and pollution prevention.<sup>337</sup> Article 90 of the MEPL stipulates liability for marine pollution:

Whoever causes pollution damage to the marine environment shall remove the pollution and compensate the losses; in case of pollution damage to the marine environment resulting entirely from the intentional act or fault of a third party, that third [party] shall remove the pollution and be liable for the compensation.<sup>338</sup>

In line with the EPL and the TLL, strict liability is established under the MEPL. However, it does not further explain what constitutes “pollution damage.” Because China is a Member State of the 1992 Protocol,<sup>339</sup> which amended the International Convention on Civil Liability for Oil Pollution Damage of 1969 (CLC),<sup>340</sup> the definition of “pollution damage” under the CLC also applies to China. However, in practice, there are still debates on the applicable scope of the CLC. As discussed in part IV.A.b, *infra*, the CLC applies to “any sea-going vessel and seaborne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo. . . .”<sup>341</sup> The term “oil” is defined as “any persistent hydrocarbon mineral oil such as crude

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337. WANG HUI, CIVIL LIABILITY FOR MARINE OIL POLLUTION DAMAGE: A COMPARATIVE AND ECONOMIC STUDY OF THE INTERNATIONAL, US AND CHINESE COMPENSATION REGIME, 227-28 (2011).

338. MEPL, art. 90.

339. *See generally* Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1992, Nov. 27, 1992. I.M.O., Misc 36 (1994), Cm 2657, RMC I, 7.51, II.7.51 [hereinafter CLC Protocol of 1992], available at <http://www.admiraltylawguide.com/conven/protocivilpol1992.html>. The International Convention on Civil Liability for Oil Pollution Damage is an international convention on oil pollution liability established under the auspice of the International Maritime Organization, amended in 1992.

340. *See generally id.*

341. *Id.*, art. I, para. 1.

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oil, fuel oil, heavy diesel oil and lubricating oil. . . .”<sup>342</sup> Thus, when the pollution involves other types of vessels or crafts, or the damage is caused by non-persistent oil, the domestic Chinese law applies. However, even when damage is caused by a ship and by oil, which are in principle covered by the CLC, there are still debates on whether the CLC applies only to ships with “foreign related issues” or to all types of sea-going vessels and seaborne crafts.<sup>343</sup> How to interpret “foreign-related issues” is also important in determining the application of the CLC.<sup>344</sup>

Concerning domestic law, the *2011 Explanation* issued by the Supreme People’s Court guides the judgment on vessel-induced oil pollution.<sup>345</sup> This explanation applies to “vessel-induced oil pollution damage as involved in oil pollution incidents of vessels that cause oil pollution damage or pose dangers of oil pollution damage in the territory or any other territorial sea of the People’s Republic of China.”<sup>346</sup> The term “oil pollution damage” is explained in a similar way to the CLC, which includes:

- (1) Costs of preventive measures to prevent or minimize vessel-induced oil pollution damage, and further loss or damage caused by preventive measures;
- (2) Property damage caused outside the vessel carrying oil by the vessel-induced oil pollution incident, and loss of earnings caused therefrom;

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342. *Id.*, art. I, para. 5.

343. See generally James Hu & Yang Bo, *Application of Law in Civil Liability for Oil Pollution Damage Caused by Coastal Vessels in China*, in PREVENTION AND COMPENSATION OF MARINE POLLUTION DAMAGE: RECENT DEVELOPMENTS IN EUROPE, CHINA AND THE U.S. 193, 193-205 (Michael Faure & James Hu eds., 2006); Michael Faure & Wang Hui, *Financial Caps for Oil Pollution Damage: China and the International Conventions*, in PREVENTION AND COMPENSATION OF MARINE POLLUTION DAMAGE: RECENT DEVELOPMENTS IN EUROPE, CHINA AND THE U.S. 317, 329-30 (Michael G. Faure & James Hu eds., 2006).

344. For example, a foreign element may be: (1) one involved party is a foreigner; (2) the cause of the case happens abroad; or (3) the subject matter is located abroad. See Hu & Yang, *supra* note 343, at 198-99.

345. See generally [Provisions of the Supreme People's Court on Several Issues Concerning the Trial of Cases of Disputes over Compensation for Vessel-Induced Oil Pollution Damage] (promulgated by the Judicial Comm. of the Sup. People's Ct., May 4, 2011, effective July 1, 2011) [hereinafter 2011 Explanation], available at <http://www.lawinfochina.com/display.aspx?lib=law&id=8822&CGid=&EncodingName=big5> (China).

346. *Id.*, art. 1.

- (3) Loss of earnings caused by environmental damage resulting from oil pollution; and
- (4) Costs of reasonable measures which have been taken or are about to be taken to restore the contaminated environment.<sup>347</sup>

Under this definition, two points are related to natural resources damage: (1) prevention costs; and (2) restoration costs. To further clarify the scope of compensable pure environmental damage (ecological damage), the explanation stipulates that:

If a vessel-induced oil pollution incident causes environmental damage, the compensation for environmental damage shall be limited to expenses [for reasonable] measures which have been taken or are about to be taken to restore the environment. Such expenses include reasonable expenses on monitoring, assessment and research.<sup>348</sup>

Similarly to the CLC, the Supreme People's Court adopted a cautious attitude to explain restoration costs; only the "reasonable" measures that "have been taken or are about to be taken" are considered compensable.<sup>349</sup>

When compensation for natural resources damage is concerned, an unavoidable question arises of how to quantify such damage. As discussed earlier, there are general rules on assessing natural resources damage in China. A non-binding recommendation on assessment methods is published, which gives guidance on quantification of five types of damage: (1) personal injury; (2) property damage; (3) emergency response costs; (4) investigation and assessment costs; and (5) restoration costs.<sup>350</sup> When restoration is possible, the restoration costs refer to the actual costs that have taken place, while if restoration is impossible, the recommendation advises the assessment of the loss on the basis of a simulated restoration method, and/or other suggested methods of calculation.<sup>351</sup> In other words, the

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347. 2011 Explanation, *supra* note 345, art. 9.

348. *Id.*, art. 17.

349. *Id.*, art. 9, para. 4.

350. METHODS ON ASSESSING ENVIRONMENTAL DAMAGE, *supra* note 92, § 3.2.

351. *Id.*, § 4.5.



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recommendation goes further than the *2011 Explanation*. The latter allows compensation for restoration costs only when restoration has been taken or is about to be taken. However, under the recommendation, compensation is still possible, even if restoration is not possible.<sup>352</sup> In the field of water pollution, there are two standards guiding the quantification of fishery losses: (1) the *1996 Rules on Calculating Fishery Losses Caused by Water Pollution Accidents*;<sup>353</sup> and (2) the *2008 Calculation Methods for Economic Losses Caused by Fishery Pollution Accidents*.<sup>354</sup> The 1996 rules apply both to the calculation of direct economic losses suffered by individuals, and to natural fishery resources that are not owned by private parties.<sup>355</sup> The 2008 standards further clarify the methods to assess natural fishery losses.<sup>356</sup> These two documents together provide a practical guidance in assessing one type of natural resources damage—natural fishery losses. As for other types of natural resources damage, the *Technical Guidelines for Ecological Damage Assessment on Marine Oil Spills* provide more detailed guidance.<sup>357</sup> They allow compensation for direct marine ecological losses, restoration costs for the habitats and species, as well as for assessment costs.<sup>358</sup> However, this is not a legally binding compensation standard, but a sectoral standard, providing guidance on the assessment of marine pollution damage.

As far as marine environmental liability is concerned, there are several other issues worth discussing here. The above discussion has shown that strict liability is established. The

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352. METHODS ON ASSESSING ENVIRONMENTAL DAMAGE, *supra* note 92, § 4.5.

353. Rules on Calculating Fishery Losses, *supra* note 228.

354. [Calculation Methods for Economic Losses Caused by Fishery Pollution Accidents] (promulgated by the General Administration of Quality Supervision, Inspection and Quarantine and Standardization Administration, effective June 1, 2008, GB/T 21678-2008) [hereinafter 2008 Standard for Calculation Methods], available at <http://www.zjoaf.gov.cn/attaches/2008/11/24/www092008112400005.doc> (China).

355. Rules on Calculating Fishery Losses, *supra* note 228.

356. See 2008 Standard for Calculation Methods, *supra* note 354.

357. [Technical Guidelines for Ecological Damage Assessment on Marine Oil Spills] (issued by the Oceanic Agency, Apr. 9, 2007, effective May 1, 2007), available at <http://www.tsinfo.js.cn/inquiry/gbtdetails.aspx?A100=HY/T%20095-2007> (China).

358. *Id.* § 8.

MEPL allows three types of defenses: (1) damage caused by war; (2) “irresistible natural calamities”; and (3) “negligence or other wrongful acts in the exercise of functions of competent departments responsible for the maintenance of beacons or other navigation aids.”<sup>359</sup> The MEPL is silent on how to determine liability if damage is caused by multiple tortfeasors. One new characteristic of the TLL of 2009 is that multiple tortfeasors are severally liable for the environmental damage they caused.<sup>360</sup> In line with this provision, Article 3 of the *2011 Explanation* also introduces several liability as the primary form of liability to deal with the multiple tortfeasor issue:

When oil has escaped from two or more vessels, and pollution damage results therefrom, if the party who suffers the damage requests that the owners of all vessels involved undertake the liability for compensation, the owners of all vessels involved shall undertake their respective liability for compensation if the damage is reasonably separable according to the quantity of oil leaked, the harm caused by their oil and other relevant factors; if the damage is not reasonably separable, the owners of all vessels involved shall be jointly and severally liable, unless exonerated by law.<sup>361</sup>

Both in the United States, as well as in the international regime, liability for oil pollution is capped (with the exception of offshore facilities and deep-water ports under the Oil Pollution Act (OPA), liability for removal costs is unlimited).<sup>362</sup> In China, neither the TLL nor the MEPL establish a cap on liability. The Commercial Maritime Code (CMC), by contrast, allows the liable party to limit its maritime liability.<sup>363</sup> It is worth noting that the categories of claims that are subject to the CMC limit are much

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359. MEPL, art. 92.

360. TLL, art. 67 (“Where the environmental pollution is caused by two or more polluters, the seriousness of liability of each polluter shall be determined according to the type of pollutant, volume of emission and other factors.”).

361. 2011 Explanation, *supra* note 345, art. 3.

362. *See* 33 U.S.C. § 2704(a) (2012).

363. [Commercial Maritime Code of the People’s Republic of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Nov. 7, 1992, effective July 1, 1993), art. 207, para. 4 [hereinafter CMC] (China).

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broader than the types of oil pollution under the MEPL.<sup>364</sup> Since China is a Member State of the CLC, which established a separate limit for oil pollution liability, the limits set in the CMC do not apply to claims for oil pollution under the CLC.<sup>365</sup> As discussed earlier, there are debates on the applicable scope of the CLC in both academia and in case law.<sup>366</sup> This debate also puzzles the determination of the limit for oil pollution damage. To clarify this issue, the *Regulation on the Prevention and Control of Vessel-Induced Marine Environment Pollution of 2009* stipulates:

With regard to the limitation of liability for pollution damage caused by vessels, the provisions of Maritime Code of the People's Republic of China in respect of the limitation of liability for

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364. The limit under Article 27 of the CMC is established for:

- (1) Claims in respect of loss of life or personal injury or loss of or damage to property including damage to [harbor] works, basins and waterways and aids to navigation occurring on board or in direct connection with the operation of the ship or with salvage operations, as well as consequential damages resulting therefrom;
- (2) Claims in respect of loss resulting from delay in delivery in the carriage of goods by sea or from delay in the arrival of passengers or their luggage;
- (3) Claims in respect of other loss resulting from infringement of rights other than contractual rights occurring in direct connection with the operation of the ship or salvage operations;
- (4) Claims of a person other than the person liable in respect of measures taken to avert or minimize loss for which the person liable may limit his liability in accordance with the provisions of this Chapter, and further loss caused by such measures.

Whatever way these claims are lodged, they may be entitled to limitation of liability. However, with respect to the remuneration set out in paragraph 4, for which the person liable pays as agreed upon in the contract, in relation to the obligation for payment, the person liable may not invoke the provisions on limitation of liability of this Article. CMC, art. 207.

365. *See id.*, art. 208, para. 2.

366. *See supra* text accompanying note 343. *But see* Zhang Liying, *Compensation for the Domestic Oil Pollution in China's Coast: Which Law Shall Apply?*, in *MARITIME POLLUTION LIABILITY AND POLICY: CHINA, EUROPE AND THE US* 359, 359-69 (Michael G. Faure et al., eds., 2010) (discussing an alternative interpretation of the application scope of the CLC in case law).

maritime claims shall apply. However, with regard to the limitation of liability for pollution damage caused by vessels carrying persistent oil in bulk to sea areas under the jurisdiction of the People's Republic of China, the provisions of the international treaties concluded or acceded to by the People's Republic of China shall apply.<sup>367</sup>

According to this provision, the CLC will apply as long as vessels carrying persistent oil cause the damage. It seems that the "foreign-related issue" is no longer necessary for the application of the CLC. If the damage is caused by an accident that does not fall under the scope of the CLC, such as damage caused by non-persistent fuel oil or fuel oil carried by vessels rather than by tankers, then the limits under the CMC will apply. This concept is also confirmed in the *2011 Explanation*.<sup>368</sup> In addition, the *2011 Explanation* clarifies that the costs of preventive measures are not subject to the CMC limitation if the damage is caused by non-persistent fuel oil or fuel oil carried by vessels rather than oil tankers.<sup>369</sup>

#### **b. Standing**

To make a claim for natural resources damage, a major obstacle in the Chinese legal system relates to the question of who has the *locus standi*. According to the CPL, only the party who has "a direct interest in the case" can bring a lawsuit to the court.<sup>370</sup> However, when there is only damage to natural resources, especially public natural resources, that are not privately owned, it remains difficult to determine who has the standing to make a claim for the damage. This obstacle has

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367. [Regulations of the People's Republic of China on the Prevention and Control of Vessel-Induced Marine Environment Pollution] (promulgated by the Executive Meeting of the State Council on Sept. 2, 2009, effective Mar. 1, 2010), art. 52 [hereinafter Regulation on Vessel-Induced Pollution], available at [http://dinrac.nowpap.org/documents/law/China/Regulations\\_on\\_Prevention\\_Control\\_of\\_Vessel-induced\\_Marine\\_Environment\\_Pollution\\_China.pdf](http://dinrac.nowpap.org/documents/law/China/Regulations_on_Prevention_Control_of_Vessel-induced_Marine_Environment_Pollution_China.pdf) (China).

368. 2011 explanation, *supra* note 345, art. 19.

369. *Id.* art. 20.

370. *See supra* part II.A.e.

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excluded much public interest litigation in China.<sup>371</sup> However, this is less of a problem for marine pollution. The MEPL authorizes public authorities explicitly to bring claims for marine pollution damage:

For damages to marine ecosystems, marine fishery resources and marine protected areas which cause heavy losses to the State, the department invested with power by the provisions of this law to conduct marine environment supervision and administration shall, on behalf of the State, put forward compensation demand to those held responsible for the damages.<sup>372</sup>

In China, many natural resources are owned by the State.<sup>373</sup> This provision limits the competent public authorities who can

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371. The claims for pollution of Songhua Jiang by PetroChina in 2005 provide an example. *See supra* part II.B.c.

372. MEPL, art. 90.

373. Many natural resources in China are owned by the State or by the citizens collectively. Article 81 of the GPCL states:

State-owned forests, mountains, grasslands, unreclaimed land, beaches, water surfaces and other natural resources may be used according to law by units under ownership by the whole people; or they may also be lawfully assigned for use by units under collective ownership. The State shall protect the usufruct of those resources, and the usufructuary shall be obliged to manage, protect and properly use them.

State-owned mineral resources may be mined according to law by units under ownership by the whole people and units under collective ownership; citizens may also lawfully mine such resources. The State shall protect lawful mining rights.

The right of citizens and collectives to lawfully contract for the management of forests, mountains, grasslands, unreclaimed land, beaches and water surfaces that are owned by collectives or owned by the State but used by collectives shall be protected by law. The rights and obligations of the two contracting parties shall be stipulated in the contract in accordance with the law.

State-owned mineral resources and waters as well as forest land, mountains, grasslands, unreclaimed land and beaches owned by the State and those that are lawfully owned by collectives may not be sold, leased, mortgaged or illegally transferred by any other means.

make claims for compensation to “the department invested with power by the provisions of this law to conduct marine environment supervision and administration . . . .”<sup>374</sup> According to the MEPL, there are four types of public authorities involved: (1) environmental protection agencies; (2) ocean agencies; (3) maritime safety agencies; and (4) fishery administrations.<sup>375</sup> The environmental protection agencies are responsible for protecting the ocean from land-based pollutants and coastal construction projects; ocean agencies are responsible for the supervision and administration of the marine environment, for preventing pollution caused by marine construction projects and dumping of wastes in the sea; maritime safety agencies are in charge of marine environmental protection in the port waters, and the investigation and handling of pollution accidents; the fishery administrations are responsible for pollution inside the fishing port waters, and protecting the ecological environment in fishing zones.<sup>376</sup> The latter three parties play a major role in bringing suit for marine natural resources damage claims. When a vessel accident leads to marine pollution, the Maritime Safety Agency (MSA) “shall have the right to adopt forcible measures to avoid or reduce pollution damage,”<sup>377</sup> and is responsible for prevention measures and cleanup in case of an accident, and can claim such costs in court. In addition to such measures, if the accident leads to other environmental losses, such as lost ecological capacity, the ocean agency can bring a claim for the damage. The fishery administration can bring claims for lost natural fishery resources.

### c. Mandatory Financial Security

As previously discussed, China is a Member State of the CLC, which introduces an obligation for shipowners to seek insurance coverage for the potential liability under the convention.<sup>378</sup> Influenced by the CLC, the 1999 revisions to the MEPL require the establishment of vessel-induced oil pollution

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374. MEPL, art. 90.

375. *Id.*, art. 5.

376. MEPL, art. 5.

377. *Id.*, art. 71.

378. *See supra* part IV.A.a.

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liability insurance for vessels, the creation of an oil pollution compensation fund, and authorize the State Council to promulgate concrete rules on those issues.<sup>379</sup> However, such concrete rules were only issued in 2009, through the *Regulation on Vessel-Induced Pollution*.<sup>380</sup> The regulation obliges vessels navigating in the Chinese sea area—with the exception of vessels of less than 1,000 tons by gross tonnage carrying cargoes other than oil—to buy insurance or seek other financial security coverage.<sup>381</sup> The amount of financial security they seek may be no less than the amount required under the CMC, and to which other conventions China accedes.<sup>382</sup> An additional document was published in 2010 to further clarify and implement the types of vessels subject to the compulsory financial security requirement.<sup>383</sup> The *Implementation Rules* also prescribe the amount of mandatory coverage as follows:

Vessels with Persistent Oil Cargo		Vessels with Non-Persistent Oil Cargo and Non-Oil Tankers Larger than 1,000 tons by gross tonnage	
Types of Vessels (gross tonnage)	Amount of Financial Security	Types of Vessels (gross tonnage)	Amount of Financial Security
(1) Less than 5,000 tons	4.51 million SDR <sup>384</sup>	(1) 20 to 21 tons (excluding 21)	27,500 SDR
		(2) 21 to 300 tons (excluding 300)	(1) + 500 SDR/ton
(2) More	(1) + 631	(3) 300 to 500	167,000 SDR

379. MEPL, art. 66.

380. See generally Regulation on Vessel-Induced Pollution, *supra* note 367.

381. Regulation on Vessel-Induced Pollution, *supra* note 367, art. 53.

382. *Id.*

383. See generally [Implementation Rules on Civil Liability Insurance for Vessel-Induced Oil Pollution Damage] (promulgated by the Ministry of Transp. on Aug. 19, 2010, effective Oct. 1, 2010) [hereinafter Implementation Rules], available at [faolex.fao.org/docs/texts/chn106766E.doc](http://faolex.fao.org/docs/texts/chn106766E.doc) (China).

384. Special Drawing Right (SDR).

than 5,000 tons	SDR/ton; but the maximum amount is 89.77 million SDR	tons	
		(4) 501 to 30,000 tons	(3) + 167 SDR/ton
		(5) 30,001 to 70,000 tons	(4) + 125 SDR/ton
		(6) More than 70,001 tons	(5) + 83 SDR/ton

Table 1: Types of vessels and required financial security.<sup>385</sup>

The *Implementation Rules* require Chinese vessels either to buy insurance from the insurers determined by the MSA or to acquire other financial security, such as a letter of guarantee and letter of credit from insurers or other financial institutions determined by the MSA.<sup>386</sup> The requirements for determining the qualifications of Protection and Indemnity (P&I) Clubs and commercial insurance companies are also clarified in the *Implementation Rules*.<sup>387</sup> In 2012, twenty-three insurance companies and P&I Clubs were acknowledged by the MSA, including the China Shipowners Mutual Assurance Association (CSMAA), commercial insurers, and members of the International Group of Protection & Indemnity Clubs (IG Group).<sup>388</sup>

#### d. Compensation Funds

Though China acceded to the CLC in 1980, it is not a Member State of the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (International Oil Pollution Compensation

385. Implementation Rules, *supra* note 383, art. 5, 6.

386. Implementation Rules, *supra* note 383, art. 8.

387. *Id.*, art. 9, 10.

388. [Notice on the Lists of Insurance Companies Providing Oil Pollution Damage Liability Insurance for Chinese Vessels of 2012] (issued by the China Maritime Safety Admin., Dec. 19, 2011), *available at* [http://www.tjmsa.gov.cn/\\_data/2012/03/30/6d283d52\\_f876\\_4215\\_8c66\\_60eff2aa6ca9/](http://www.tjmsa.gov.cn/_data/2012/03/30/6d283d52_f876_4215_8c66_60eff2aa6ca9/) (China). The International Group of P&I Clubs (IG Group) is composed of thirteen principle P&I Clubs, which provide liability coverage for approximately 90% of the world's ocean-going tonnage. INTERNATIONAL GROUP OF P&I CLUBS, <http://www.igpandi.org/> (last visited Jan. 11, 2014).



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Fund or IOPCF) of 1971 and 1992.<sup>389</sup> Therefore it is not obligatory for the Chinese oil industry to contribute to the Oil Pollution Fund.<sup>390</sup> However, the *Regulation on Vessel-Induced Pollution* requires the establishment of a domestic Vessel-induced Oil Pollution Damage Compensation Fund (Compensation Fund).<sup>391</sup> According to the regulation, all “the cargo owners or their agents who receive persistent oil cargo carried by sea within sea areas [of China]” shall contribute to the Compensation Fund.<sup>392</sup> The concrete rule to manage the fund was recently published.<sup>393</sup>

The *Regulation on the Compensation Fund* sets the contribution at 0.3 RMB per ton of persistent oil.<sup>394</sup> The fund can be used to compensate or indemnify when: (1) the total amount of compensation exceeds the shipowner’s limitation of liability; (2) the legal defenses are available; (3) the shipowner and its insurer/guarantor cannot provide full compensation; and (4) the liable ships cannot be identified.<sup>395</sup> Three exceptions are clarified for when the Compensation Fund does not apply: (1) damage caused by war, insurrections, or non-commercial vessels/military ships held by the government; (2) claimants who cannot prove that the oil pollution is caused by ships; or (3) damage that is

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389. See I.M.O., STATUS OF MULTILATERAL CONVENTIONS AND INSTRUMENTS IN RESPECT OF WHICH THE INTERNATIONAL MARITIME ORGANIZATION OR ITS SECRETARY-GENERAL PERFORMS DEPOSITARY OR OTHER FUNCTIONS, 242, 274-81, 288-95 (2014), available at <http://www.imo.org/About/Conventions/StatusOfConventions/Documents/Status%20%202014%20New%20Version.pdf>.

390. According to Article 10 of the IOPCF, the contracting states must ensure annual contributions to the Fund. I.O.P.C.F., LIABILITY AND COMPENSATION FOR OIL POLLUTION DAMAGE: TEXTS OF THE 1992 CIVIL LIABILITY CONVENTION, THE 1992 FUND CONVENTION AND THE SUPPLEMENTARY FUND PROTOCOL 26 (2011 ed.) available at [http://www.iopecfunds.org/uploads/tx\\_iopecpublications/Text\\_of\\_Conventions\\_e.pdf](http://www.iopecfunds.org/uploads/tx_iopecpublications/Text_of_Conventions_e.pdf). China is not a party to this Convention; hence such obligation does not exist.

391. Regulation on Vessel-Induced Pollution, *supra* note 367, art. 56.

392. *Id.*

393. [Management Regulation of Collection and Use of the Vessel-Induced Pollution Damage Compensation Fund] (promulgated by the Ministry of Fin. & the Ministry of Transp., May 11, 2012, effective July 1, 2012) [hereinafter Regulation on Compensation Fund], available at [http://www.gov.cn/zwjk/2012-05/28/content\\_2147033.htm](http://www.gov.cn/zwjk/2012-05/28/content_2147033.htm) (China).

394. *Id.*, art. 6.

395. *Id.*, art. 15.

fully or partially caused by the victims' own fault.<sup>396</sup> One major difference between the Compensation Fund and the IOPCF is that the former establishes a priority list to provide compensation in case of insufficient capacity of the fund. For the claims caused by different accidents, the Compensation Fund shall deal with the compensation according to the time of application. If the claims are caused by the same accident, then the compensation shall be provided according to the following order: (1) emergency response costs; (2) cleanup costs; (3) direct economic losses suffered by the fishery and the tourism industry; (4) the costs of measures to restore the marine ecosystem and natural fishery resources; (5) monitoring costs incurred by the management committee of the Compensation Funds; and (6) other costs approved by the State Council.<sup>397</sup> The upper limit of compensation for one accident is set at 30 million RMB.<sup>398</sup>

## B. Practice

### a. Claims Filing

Administrative agencies, especially the MSA, have an important role in filing and handling claims. The MSA is in charge of the response and cleanup of pollution from accidents.<sup>399</sup> The State Oceanic Agency (SOA) is responsible for the restoration of the environment.<sup>400</sup> Most claims for ecological damage are brought either by the MSA or by the SOA. Fishermen are usually the victims who bring claims for individual losses. Most disputes are settled before they can be brought to court.<sup>401</sup>

Different authorities have the competence for claiming compensation in the case of marine oil pollution, and the division of power between local authorities and the central government is

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396. *Id.*, art. 16.

397. Regulation on Compensation Fund, *supra* note 393, art. 17.

398. *Id.*, art. 18.

399. Interview with Representatives of China Shipowners Mutual Assurance Association, in Beijing, China (Aug. 22, 2011) [hereinafter Interview with CSMAA Reps.] (on file with authors).

400. *Id.*

401. *Id.*

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not always clear.<sup>402</sup> Usually, in maritime environmental litigation, the SOA brings claims for pure environmental damage, whereas the MSA brings claims for cleanup costs and imposes fines.<sup>403</sup> Compensation for damage caused by the ship, *Tasman Sea*, is an example of a case brought by the oceanic and fishery agencies. This case was reported as the first case in China where natural resource damage was compensated.<sup>404</sup> In 2003, *Tasman Sea* collided near Tianjin and leaked oil causing serious damage to the fishing industry and the marine environment.<sup>405</sup> The Tianjin Oceanic Agency brought claims against the ship for the loss of oceanic environmental capacity, loss of marine biodiversity, restoration costs, and assessment costs, while the Fishery Agency brought claims for natural fishery losses.<sup>406</sup> In the first judgment in 2004, the defendants were held to pay the Oceanic Agency for the loss of environmental capacity and assessment costs of more than 10 million RMB, and the defendants had to pay the Fishery Agency more than 15 million RMB for natural fishery losses.<sup>407</sup> However, the division of authority is not always clear. Sometimes the prosecutors, environmental agencies, or local governments also bring claims for ecological damage.<sup>408</sup>

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402. See Interview with Prof. Wang Jin, *supra* note 89.

403. Interview with CSMAA Reps., *supra* note 399.

404. See Ma Jing-jing & Du Jiang, *Discussion on the National Claim System for Oil Pollution Damage from Ships*, in PREVENTION AND COMPENSATION OF MARINE POLLUTION DAMAGE: RECENT DEVELOPMENTS IN EUROPE, CHINA AND THE US 223, 224, 231 (Michael G. Faure & James Hu eds., 2006); see also ZHU XIAO, [A STUDY OF SOCIALIZED INDEMNIFICATION FOR ECOLOGICAL DAMAGE: A JURISPRUDENTIAL PERSPECTIVE] 28-30 (2007).

405. Xiaoqin Zhu & Lin Dong, *Legal Remedies for Marine Ecological Damage in China: As Illustrated by the Tasman Sea Oil Spills Case*, 2 J.E. Asia & Int'l L. 391, 394-95 (2009) (noting that this case has been appealed by the defendant to the High Court of Tianjin, and the final judgment has not been made public).

406. *Id.*

407. *Id.*

408. See *infra* part IV.B.d.

**b. Compensation Through P&I Clubs**

Only certified insurers and P&I Clubs can provide insurance coverage for oil pollution in China.<sup>409</sup> CSMAA is one of the largest insurance providers for oil pollution liability in China. A P&I Club is composed of shipowners who enter into a risk-sharing agreement that mutually covers each other's losses.<sup>410</sup> CSMAA and other P&I Clubs formally function as a risk-sharing agreement, and not as an insurer, because risks are mutually shared and not shifted to a third party.<sup>411</sup> However, from the victim's perspective, the crucial point is that P&I Clubs compensate the losses for which the members—usually shipowners—are covered.<sup>412</sup> It is worth noting that CSMAA is not a member of the IG Group.

Clause 12 of the *Rules of CSMAA* cover pollution risks. According to this clause, the following risks are included:

- A. Liability for loss, damage or contamination.
- B. Any loss, damage or expense which the Member incurs, or for which he is liable, as a party to any agreement approved by the Directors, including the costs and expenses incurred by the Member in performing his obligations under such agreements.
- C. The costs of any measures reasonably taken for the purpose of avoiding or minimizing pollution or any resulting loss or damage together with any liability for loss of or damage to property caused by measures so taken.
- D. The costs of any measures reasonabl[y] taken to prevent an imminent danger of the discharge or escape from the entered ship of oil or any substance which may cause pollution.
- E. The costs of liabilities incurred as a result of compliance with any order or direction given by any government or authority,

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409. See *supra* part IV.A.c.

410. See T.G. Coghlin, *Protection & Indemnity Clubs*, LLOYD'S MAR. COMM. L.Q. 404 (1984).

411. See FAURE & HARTLIEF, *supra* note 257, at 167-68 (discussing the differences between risk sharing and insurance).

412. One important line of CSMAA's policies is the liability insurance, which covers damage to cargo, personal injury, and pollution damage. See *Profile, CHINA SHIPOWNERS MUTUAL ASSURANCE ASSOCIATION*, [http://www.cpiweb.org/xiehuijigou/en\\_aboutus.jsp](http://www.cpiweb.org/xiehuijigou/en_aboutus.jsp) (Jan. 11, 2014) (discussing CSMAA's member coverage).

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for the purpose of preventing or reducing pollution or the risk of pollution, provided always that:

- a. such compliance is not a requirement for the normal operation or salvage or repair of the entered ship; and
- b. such costs or liabilities are not recoverable under the Hull Policies or the Hull Certificates of the entered ship.<sup>413</sup>

The rules of P&I Clubs usually do not contain a specific title concerning restoration costs, because these are covered under the title of cleanup costs. Cleanup costs need to be reasonable and real. According to CSMAA, interim losses are difficult to be evaluated, and are usually not compensated.<sup>414</sup>

CSMAA has an acceptance policy where a ship is inspected before it will be covered.<sup>415</sup> A classification society is designated to undertake the inspection.<sup>416</sup> When CSMAA believes that the ship is not qualified, it can either ask for the improvement of safety measures or refuse to cover the ship.<sup>417</sup> Because insurance coverage is mandatory, if the ship is refused coverage, the shipowner will have to seek coverage from another P&I Club or insurer.<sup>418</sup> After the ship has been accepted, insurers perform random inspections based on the presumed quality properties of the ship and its age.<sup>419</sup> The premiums charged for sea-going ships and inland ships that remain in China do not vary considerably.<sup>420</sup> These differences are usually based on technical differences between the ships and on the past loss experience.<sup>421</sup> The ship's premium will be increased in the case of a heavy claim record.<sup>422</sup> The evaluation of risks is based on the shipowner's entire fleet, rather than on the basis of an individual ship.<sup>423</sup>

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413. *By-laws & Rules: Section 12*, CHINA SHIPOWNERS MUTUAL ASSURANCE ASSOCIATION, [http://www.cpiweb.org/en\\_baoxiantiaokuan/3.8.jsp](http://www.cpiweb.org/en_baoxiantiaokuan/3.8.jsp) (last visited Jan. 11, 2014).

414. Interview with CSMAA Reps., *supra* note 399.

415. Interview with CSMAA Reps., *supra* note 399.

416. *Id.*

417. *Id.*

418. *Id.*

419. *Id.*

420. *Id.*

421. Interview with CSMAA Reps., *supra* note 399.

422. *Id.*

423. *Id.*

Because CSMAA only provides coverage, reinsurance is purchased annually from the international group of P&I Clubs for any amount above the retention rate.<sup>424</sup>

### c. Remedies

In marine pollution cases, compensation is usually claimed for the loss of fishery resources, with distinctions made between the direct losses, involving the fish that immediately died as a result of the pollution, middle losses, and long-term losses.<sup>425</sup> Cleanup costs from removing oil are also claimed, and these cleanup costs and losses by cleanup measures can usually be easily calculated, because these costs are known.<sup>426</sup> These costs are easier to reclaim, because public authorities can use an arrest of a vessel to cover the costs of cleanup and preventive measures.<sup>427</sup> Difficulties often arise concerning the acceptability of the government's proposed or executed restoration measures concerning the evaluation of the damage.<sup>428</sup>

A regime of vessel pollution cleanup agreements is established to ensure the timely cleanup of pollution. Some types of vessels are required to sign cleanup agreements with qualified institutions before they arrive at Chinese harbors.<sup>429</sup> If the vessels have an accident, these agreements require a vessel pollution cleanup institution to provide response and cleanup

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424. See generally Michael Faure & Roger Van Den Bergh, *Competition on the European Market for Liability Insurance and Efficient Accident Law*, 9 MAASTRICHT J. EUR. & COMP. L. 279 (2002) (discussing the function of the international group of P&I Clubs).

425. Rules on Calculating Fishery Losses, *supra* note 228 (distinguishing between direct economic losses and natural fishery losses, which are usually called direct losses, and middle and long-term losses in practice).

426. Interview with Prof. Wang Jin, *supra* note 89.

427. See [Maritime Procedure Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 25, 1999, effective July 1, 2000), art. 21 (China).

428. Interview with Prof. Wang Jin, *supra* note 89.

429. See [Marine Pollution from Ships Environmental Emergency Preparedness and Emergency Management Regulations (Draft)] (issued by the Ministry of Transp., Sept. 13, 2010), art. 29-30, available at [http://www.mot.gov.cn/zizhan/siju/tifasi/lifaguanli/lifajihua/201009/t20100913\\_807321.html](http://www.mot.gov.cn/zizhan/siju/tifasi/lifaguanli/lifajihua/201009/t20100913_807321.html) (China).

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services.<sup>430</sup> Such cleanup institutions have to be certified by the MSA.<sup>431</sup>

China's experience with marine ecological damage claims is growing.<sup>432</sup> Sometimes public authorities will bring claims for this damage.<sup>433</sup> However, on the national level, regulation on using the damages claimed from the polluters is lacking. Recently, some local areas have started to publish regulations on this issue, such as Guangdong Province's *Temporary Regulatory Document on the Use of Money Compensated for the Oceanic and Fishery Environment*.<sup>434</sup> The document applies to the compensation awarded to oceanic and fisheries agencies for the marine environmental damage and fishery losses in the Guangdong Province.<sup>435</sup> It held that the money should be put in a specific financial account of the provincial or local treasury, and should be used to compensate, monitor, and protect the marine fishery resources, and to eventually remediate the marine environment.<sup>436</sup>

#### d. Cases

In recent years, there has been an increase in cases involving claims for marine (inland waters) ecological damage in China.<sup>437</sup> This article uses sixty-six marine environmental pollution cases adjudicated by the Guangzhou Maritime Court from 1991 to 2009 as an example to show how ecological damage can be

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430. *Id.*, art. 33.

431. *Id.*, art. 27.

432. *See supra* part IV.B.a.

433. *Id.*

434. [Guangdong Temporary Regulatory Document on the Use of Money Compensated for the Oceanic and Fishery Environment] (promulgated by the Guangdong Dep't of Fin., effective Oct. 25, 2006), [hereinafter Guangdong Temporary Regulatory Document] available at <http://3y.uu456.com/bp-daaf3bc3sfbfc77da269b143-1.html> (China).

435. Guangdong Temporary Regulatory Document, *supra* note 434, art. 2.

436. *Id.*, art. 3-4.

437. *See* Li Zhiping et. al., [Water Pollution Public Interest Litigation in Practice: Research Report on Relevant Cases in Guangzhou Maritime Court (1991-2009)], 9 (1) U. SUN YAT-SEN L. REV. 239, 240-41 (2011) (China).

compensated in China.<sup>438</sup> In many of those cases, fishery associations or local communities brought claims for their fishery losses.<sup>439</sup> There are also fourteen public interest litigation cases where compensation was awarded for ecological damage.<sup>440</sup> There are generally two types of plaintiffs in these cases: (1) public authorities; and (2) procuratorates. Maritime safety agencies and oceanic and fishery agencies are the most common plaintiffs in the category of public authorities.<sup>441</sup> Eight cases involve oceanic and fishery agencies as plaintiffs and two cases involve maritime safety agencies.<sup>442</sup> Other authorities have also been involved in cases, such as: (1) the environmental protection bureaus (one case); (2) the environmental and health management departments (one case); and (3) local government (one case).<sup>443</sup> Those cases show how judges deal with standing issues for public interest litigation in the marine pollution area in China.<sup>444</sup> However, the actual number of pollution cases may be substantially higher, because many cases are settled before being

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438. This information is based on the Project, "Water Pollution Public Interest Litigation" held jointly by Sun Yat-sen University Faculty of Law and the Guangzhou Maritime Court. We are grateful to Professor Li Zhiping of Sun Yat-sen University and to Ms. Yang of the Guangzhou Maritime Court for providing the helpful information. It is worth noting that not all the tort cases adjudicated in the Maritime Court are related to vessels. See Interview with Ms. Yang, Judge, Guangzhou Maritime Court, in Guangzhou, China (Aug. 12, 2011) (on file with authors). According to a Supreme People's Court judicial explanation, the Maritime Court accepted not only cases concerning damage and pollution caused by vessels, but also "[c]ases on disputes over claims for damages arising out of shipping, production, operations on the sea or on water areas leading to the sea. . . ." [Some Provisions of the Supreme People's Court on the Scope of Cases to be Entertained by Maritime Courts] (promulgated by Judicial Committee of the Sup. People's Ct., Aug. 9, 2001) art. 1, para. 5, available at <http://www.gzhsfy.org/english/shownews.php?id=9772> (China). In addition to vessel-related tort cases, the Guangzhou Maritime Court also accepts "cases on disputes over claims for damage arising out of pollution on the sea or water areas leading to the sea." *Id.* at app. 3.

439. Li et. al., *supra* note 437, at 240-41.

440. *Id.*

441. Li et. al., *supra* note 437, at 240-41.

442. *Id.*

443. *Id.*

444. *Id.*



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tried in court.<sup>445</sup> Moreover, this sample only relates to the Guangzhou Maritime Court located in the South of China.<sup>446</sup>

In the examined cases, compensation is awarded for different types of pollution. The fishery associations and local communities are awarded damages that are calculated based on the fishery losses they collectively suffered. The other cases deal with public interest litigation where public authorities and procuratorates bring claims for cleanup costs, natural fishery losses, assessment costs, and at times, restoration costs.<sup>447</sup> Several cases involved compensation for environmental damage in addition to compensation for the above mentioned types of losses. *Guangzhou Haizhu District Procuratorate v. Chenzhongming*<sup>448</sup> and *Guangzhou Panyu District Procuratorate v. Lu Pingzhang*<sup>449</sup> are two cases that involve claims for cleanup costs and fishery losses, as well as ecological damage; however, these two cases do not involve vessel-induced pollution. In both cases, the defendants' enterprise caused the water pollution, and the environmental damage was assessed broadly based on the assessment report.<sup>450</sup> In *Guangzhou Haizhu District Procuratorate*, direct economic losses were assessed, which

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445. Interview with CSMAA Reps., *supra* note 399; Interview with Representative of the Oceanic and Fisheries Administration of Guangdong Province, in Guangzhou, China (Aug. 15, 2011) (on file with authors).

446. *Id.*

447. For example, in the case of the *Zhuhai Environmental Protection Bureau v. Taizhou Donghai Marine Transport Limited and China Vessels Fuel Supplying Fujian Company* (Fujian Company), one of the defendant's vessels had an accident leading to an oil spill and marine pollution in Zhuhai. The Environmental Protection Bureau adopted both cleanup and restoration measures, and it filed claims for both costs and assessment costs in the court. In the judgment, Fujian Company was ordered to pay for all those costs. [*Zhuhai Env'tl. Prot. Bureau v. Taizhou Donghai Marine Transp. Ltd. & China Vessels Fuel Supplying Fujian Co.*], Guanghaifashizi no. 88 (Guangzhou Mar. Ct. 1999) (China) (on file with Guangzhou Maritime Court).

448. [*Guangzhou Haizhu Dist. Procuratorate v. Chenzhongming*], Guanghaifachuzi no. 382 (Guangzhou Mar. Ct. 2008) [hereinafter *Guangzhou Haizhu District Procuratorate*] (China) (on file with Guangzhou Maritime Court).

449. [*Guangzhou Panyu Dist. Procuratorate v. Lu Pingzhang*], Guanghaifachuzi no. 247 (Guangzhou Mar. Ct. July 22, 2009) [hereinafter *Guangzhou Panyu District Procuratorate*], available at <http://www.gzhsfy.org/showjudgment.php?id=4367> (China).

450. *Id.*; *Guangzhou Haizhu District Procuratorate*, *supra* note 448.

included monitoring costs, water resources fees, and cleanup costs.<sup>451</sup> In addition, indirect economic losses resulting from the environmental damage were assessed.<sup>452</sup> However, the court held that these were too difficult to evaluate and could not be compensated.<sup>453</sup> The same issue arose for water treatment costs, as they were considered too difficult to evaluate, and also were not compensated.<sup>454</sup> In *Guangzhou Panyu District Procuratorate*, three kinds of losses were included under “environmental damage.” These losses were: (1) direct damage (damage to agriculture, fisheries, and ecology); (2) indirect damage (economic losses of other productive and consumptive systems that were caused by water pollution, and costs of preventive measures); and (3) loss of enjoyment; however, compensation was only granted for direct and indirect damage.<sup>455</sup>

The representatives from CSMAA held that oil pollution is an important risk and leads to quite a few cases involving the discharge of bulk and cargo oil.<sup>456</sup> So far China has not suffered from major vessel-induced pollution incidents of the magnitude of *Erika* or *Prestige*.<sup>457</sup> Since then, there have been many smaller cases, none of which have exceeded the limit of the insurance coverage.<sup>458</sup>

#### e. Challenges

Although the evaluation and compensation of marine pollution damage is better than the evaluation and compensation in land-based pollution cases, there are still problems in this domain as well. Most of these problems relate to the evaluation of environmental damage. The two cases examined above that were heard in the Guangzhou Maritime Court, also show the practical difficulties involved, as experts are unable to evaluate

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451. *Guangzhou Haizhu District Procuratorate*, *supra* note 448.

452. *Id.*

453. *Id.*

454. *Id.*

455. *See Guangzhou Panyu District Procuratorate*, *supra* note 449.

456. Interview with CSMAA Reps., *supra* note 399.

457. *See Emma Daly, After Oil Spill, Spain and France Impose Strict Tanker Inspections*, N.Y. TIMES, Nov. 27, 2002, A5.

458. Interview with CSMAA Reps., *supra* note 399.

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the indirect economic losses or loss of enjoyment, and therefore, these losses are neglected. These difficulties arise because there is no standard for evaluating marine environmental damage, and there is no consistent method for evaluating the damage.<sup>459</sup> The absence of evaluation methods leads to uncertainty, and the potential for undercompensation.<sup>460</sup>

## V. ECONOMIC ANALYSIS AND POLICY RECOMMENDATIONS

Environmental damage is compensated in China by looking at the theoretical compensation possibilities based on the statutes and rules. Given the limits of the empirical method used, one should be careful with drawing strong normative conclusions based on this analysis. We realize that although some interviews were conducted with representatives from government agencies, academia, NGOs, and insurers, the number of interviews was limited and most of them were concentrated in the Beijing and Guangzhou areas. Moreover, we had no opportunity to talk to “real” victims of pollution.<sup>461</sup> Recent publications that were based on interviews conducted with “real” victims demonstrate that there is still a lot of work to do.<sup>462</sup> In this section, a short economic analysis of the compensation system, and policy recommendations for future development are discussed.

### A. Economic Analysis of the Chinese Compensation System for Environmental Damage

#### a. Liability Rules

Economic analysis shows that regulation and liability can be used together to create efficient preventive incentives for

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459. Interview with Prof. Wang Jin, *supra* note 89.

460. CSMAA Representatives held the opposite, believing overcompensation may be the case. See Interview with CSMAA Reps., *supra* note 399.

461. Although we interviewed Professor Wang Canfa, who works at the Centre for Legal Aid to Pollution Victims (CLAPV), and is knowledgeable about the problems victims of environmental pollution in China are facing, we have not interviewed pollution victims directly.

462. See, e.g., van Rooij, *The Compensation Trap*, *supra* note 148, at 740-41.

potential polluters. Regulation, liability rules, information asymmetry between private parties and the regulatory authority about risky activities, insolvency, availability of legal action, and administrative costs are some factors that can deter people from bringing a suit.<sup>463</sup> This is also true in China. Although China has made improvements in establishing its environmental legal framework<sup>464</sup> and strengthening enforcement,<sup>465</sup> China is still subject to huge enforcement challenges, because it still suffers from weak agency capacity and capture-prone governance.<sup>466</sup> In this case, liability rules can be used to fill the regulation and enforcement gaps.

General civil laws and specific environmental statutes work together to create the legal basis for environmental liability. The newly adopted TLL in China<sup>467</sup> reiterated a few principles and clarified some issues concerning environmental liability. A comparatively comprehensive and sound liability system for personal injury and property damage caused by the environment has been established on paper. Liable parties are held strictly liable, which in theory can lead to efficient care and activity levels. A reversal of the burden of proof can relieve the victims of the heavy burden to prove the causation between the pollution and their damage. There is no provision channeling liability to specific parties, and there are no general caps on liability.<sup>468</sup> Although this seems in accord with economic theory,<sup>469</sup> a review of practical experiences has shown that the possibilities formal legislation offers are insufficiently used. As noted *supra*, only a small fraction of environmental disputes end up in court. The

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463. Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 13 J. LEGAL STUD. 357, 359-64 (1984).

464. See Wang, *supra* note 111, at 202-03.

465. See Benjamin van Rooij, *Implementation of Chinese Environmental Law: Regular Enforcement and Political Campaigns*, 37 DEV. & CHANGE 57, 65-69 (2006).

466. Lesley K. McAllister et al., *Reorienting Regulation: Pollution Enforcement in Industrializing Countries*, 32 L. & POL'Y 1, 9 (2010).

467. See generally TLL.

468. No such provisions can be found in the TLL, GPCL or EPL.

469. See DETERRENCE, INSURABILITY AND COMPENSATION IN ENVIRONMENTAL LIABILITY: FUTURE DEVELOPMENT IN THE EUROPEAN UNION 181-85 (MICHAEL FAURE ed., 2003) (describing an economics analysis of environmental liability).

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lack of environmental dispute litigation cannot be entirely explained by the legal culture that people are reluctant to go to court. Rather, the explanation lies in the barriers in access to the courts that arise because the court is cautious to accept sensitive or collective cases, and to reject a case where a written verdict still exists, therefore leaving the victims' rights unremedied.<sup>470</sup> Even when a case reaches the court, the theoretical reversal of the burden of proof is not always enforced in practice.<sup>471</sup> Without clear assessment standards and support from local government, the victims are often haunted with the difficulties of proving their damages, the pollution action, and causal links.<sup>472</sup>

Obstacles arise when trying to abate ecological damage, not only in practice, but also on paper. First, Chinese law does not impose an obligation on specific parties—polluters or specific public authorities—to restore the damaged environment. Second, with the exception of marine pollution, the law is also unclear on whether ecological damage is compensable. Although general environmental liability provisions can be found in the new TLL, it does not explicitly reference pure ecological damage. Moreover, hurdles are not only present in substantive law, but also arise in procedural law. Ecological damage may be widespread, and may not involve individual victims. Chinese law allows for very limited public interest litigation, which poses a serious challenge to the *locus standi*. Lack of assessment standards also makes compensation for ecological damage difficult in practice.

These legislative gaps have led to insufficient restoration and compensation. For example, there is an important governmental role in the cleanup of polluted sites. This could be viewed positively as the government taking responsibility for cleanup actions. However, this causes numerous difficulties. One problem is that actions are usually not directed against polluters. Since historically pollution is often caused by SOEs, the government's incentive to act against polluters may be limited. Moreover, the government will often provide restoration itself,

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470. See *supra* part II.B.c.

471. Stern, *supra* note 154, at 85.

472. van Rooij, *The People vs. Pollution*, *supra* note 148, at 67-70.

and simply charge a higher price for the new development of the land.

This demonstrates the need for the Chinese government to take on a different role in restoration cases. The Chinese government should instead interweave public and private law, and use legal and economic tools in conjunction with one another. Since actions are usually addressed against new developers rather than against polluters, it is doubtful that the actions provide incentives to prevent potential polluters.<sup>473</sup> Related to this is the research referenced above<sup>474</sup> discussing the “compensation trap,” where victims are paid-off by industry, subsequently removing the requirement to prevent pollution.<sup>475</sup> This demonstrates that compensation is only one part of the larger issue of environmental problems. Compensation should not be a goal in and of itself, but rather it should provide incentives to potential polluters to abate pollution to efficient levels. Given the low probability of a liability suit and the minimal damages that would be awarded, it is doubtful that environmental liability in China can result in a deterrent effect, notwithstanding the recent changes, inter alia as a result of the TLL of 2009.

#### **b. Insurance**

Theoretical analysis shows that compensation instruments can complement liability rules in compensating and preventing ecological damage.<sup>476</sup> The compensation tools used include: (1) insurance; (2) environmental funds; and (3) capital market works.<sup>477</sup> However, the comprehensive compensation system can be called into question when liability rules fail to provide an efficient deterrent effect. With the exception of marine oil pollution caused by sea-going vessels, there is no general requirement of financial security. The judgment-proof problem

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473. See generally GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* (1970) (describing the deterrent effect of tort law).

474. van Rooij, *The Compensation Trap*, *supra* note 148, at 741.

475. *Id.*

476. See generally Faure & Liu, *supra* note 14.

477. See generally *PATHWAY FOR ENVIRONMENTAL LIABILITY INSURANCE*, *supra* note 316.

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may leave the victims uncompensated, the damaged environment unrestored, and may in fact encourage pollution.<sup>478</sup> Low liability deterrence coupled with a lack of a mandatory financial security system leads to fewer compensation instruments in China.<sup>479</sup> The environmental insurance market has only started to develop in recent years. Now insurance possibilities, including general liability insurance policies and specific environmental pollution liability, are widely available. Personal injury and property damage caused by environmental incidents are generally covered. Cleanup costs may be also covered to the extent that they can prevent further personal injury and property damage. Some insurance policies<sup>480</sup> even cover remediation costs on and from the insured sites. However, gaps still exist as restoration costs and cleanups are usually uncovered. Today serious challenges facing insurers persist as premiums remain high and adverse selection exists. The analysis, *supra*, shows that insurance is not broadly used, which is not surprising since environmental liability does not constitute a serious threat. As the seriousness of environmental liability in China is not present, the incentives for polluters to seek insurance coverage are not pressing. However, if environmental liability were to develop further, the insurance market would be able to provide at least basic coverage for this environmental liability risk.

**c. Marine Oil Pollution**

There is a more comprehensive legal framework in China for ecological damage in marine oil pollution cases. The MEPL allows competent public authorities to bring claims for marine environmental damage. Legislation also admits that some parts of ecological damage are compensable, such as prevention costs and reasonable restoration costs. This focus can be explained by the influence of international conventions, such as the CLC,

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478. See Steven Shavell, *The Judgment-Proof Problem*, 6 INT'L REV. L. & ECON. 45, 54 (1986).

479. See *generally* Polborn, *supra* note 253 (describing the relationship between mandatory insurance and the judgment-proof problem).

480. HUATAI PREMISES INSURANCE, *supra* note 301, at 4.

which China has joined.<sup>481</sup> Nevertheless, marine environmental damage legislation also has inefficient features. The compensable scope of ecological damage is similar to that under the CLC, but it is much more limited than the definition of natural resources damage in OPA, adopted in the United States. The United States' system compensates for the loss of ecological service pending restoration, and compensates even when restoration is impossible.<sup>482</sup> Broader compensation is only feasible when clear assessment rules are in place, which the Chinese system currently lacks. The Chinese legislation itself does not explicitly channel liability to shipowners. However, because it is usually the shipowners who are held liable, any incentive for other parties who may have contributed to the risk is diminished.<sup>483</sup> The CMC created a limitation of liability, which is even lower than the CLC limits, where a limitation established in the CMC applies when an accident falls out of the CLC's scope. This CLC limitation of liability is also applicable in China. The capped liability, combined with strict liability can provide insufficient preventive incentives to shipowners.

The marine oil pollution compensation system has a more developed insurance market. CSMAA has a long history of

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481. I.M.O. *supra* note 389, at 242.

482. The OPA authorized the National Oceanic and Atmospheric Administration (NOAA) to promulgate regulations for the assessment of natural resource damage in the United States. 33 U.S.C. § 2706(e)(1). In 1996, NOAA promulgated the final rule concerning natural resource damage assessments. Natural Resource Damage Assessments, 61 Fed. Reg. 440 (Jan. 5, 1996) (codified at 15 C.F.R. pt. 990). This regulation prescribes a concrete procedure and assessment method. Under the NOAA assessment rule, restoration is defined as any action to "restore, rehabilitate, replace, or acquire the equivalent of" the damaged natural resources. 15 C.F.R. § 990.30 (2013). To compensate for interim losses, the NOAA rule also adopts a restoration-based approach: compensatory restoration is allowed to compensate for the lost "natural resources and services that occur from the date of the incident until recovery." *Id.* When determining compensatory restoration, trustees should use a resource-to-resource or service-to-service approach to compensate for the lost natural resources service or value. If these approaches are not possible, trustees can use other evaluation techniques to "estimate the dollar value of the lost services and select the scale of the restoration action that has a cost equivalent to the lost value." *Id.* § 990.53(d)(3)(ii).

483. WANG HUI, CIVIL LIABILITY FOR MARINE OIL POLLUTION DAMAGE: A COMPARATIVE AND ECONOMIC STUDY OF THE INTERNATIONAL, US AND CHINESE COMPENSATION REGIME 249 (Kurt Deketelaere eds., 2011).



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covering pollution damage to vessels, including preventive measures and restoration costs. A mandatory insurance system was adopted in the *Regulation on Vessel-Induced Pollution* in 2009, which can relieve the judgment-proof problem. This Regulation also led to the establishment of an Oil Spill Compensation Fund. All the cargo owners, or their agents, who receive continuous oil cargo carried by sea within the sea areas of China make contributions to the fund based on the amount of oil they received (0.3 RMB per ton).<sup>484</sup> The Fund compliments the compensation capacity of the shipowners and their insurers. However, basing the contribution only on the amount of oil, and not on the actual oil pollution risks, has been criticized since it cannot create sufficient preventive incentives for the oil industry.<sup>485</sup> Economic analysis suggests the duty of compensation be placed on the actors that actually contribute to the risks, and also that the contributions be in proportion to the amount of risk they create.<sup>486</sup> To base the contributions to the Compensation Fund only on the amount of oil received incentivizes the oil industry to change its activity level, but it does not shift the oil industry's safety level (i.e., choosing safer vessels to transfer the oil cargo). One author proposed an oil fund system in the United States that has achieved better risk differentiation by basing a vessel's initial contribution on the historical oil spills it has created, and allowing a decrease in a vessel's contribution if better safety measures are adopted.<sup>487</sup> However, such a system incurs high administrative costs.<sup>488</sup> The desirability of risk differentiation depends on the tradeoff between the benefits in saving primary costs and the increase of secondary and tertiary costs.

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484. Regulation on Compensation Fund, *supra* note 393, art. 6.

485. WANG, *supra* note 337, at 338-41.

486. *Id.*

487. Lance D. Wood, *An Integrated International and Domestic Approach to Civil Liability for Vessel-Source Oil Pollution*, 7 J. MAR. L. & COM. 1, 47-48 (1975).

488. *Id.*

## **B. Recommendations to Improve the Compensation System**

Important steps have been taken in recent years, both at the legislative level and at the practical level, to improve the compensation system for environmental damage in China. These developments are undoubtedly important, but claims for ecological damage in China still face substantial hurdles in obtaining fair compensation. Therefore, environmental liability in China is neither fulfilling its compensatory, nor its preventive role. In this respect, China still has a long way to go. This section attempts to provide some recommendations for the future development of the compensation system in China.

### **a. Legal Framework**

The analysis, *supra*, has shown legislative gaps that prevent effective compensation for ecological damage in China. To this end, economic analysis and international experience can provide some hints to improve the Chinese legal framework.

Although a comparative comprehensive tort system for traditional damage caused by the environment has been established, legislation for ecological damage is not promising in China, because China still has much left to do at the legislative level. First, a clear obligation in response to an environmental accident needs to be established. Either the polluters or the public authorities should take cleanup/restoration measures in the case of ecological damage. A clear division of authority is necessary to ensure an effective and timely response. For example, in the United States, various government authorities are trustees of specific natural resources, and are required to respond to pollution and bring claims for the damage.<sup>489</sup> Authorizing the public agencies can also help to solve the standing problem, which is an important hurdle currently facing

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489. For example, in the United States, many federal public authorities, including the Departments of Agriculture, Commerce, Defense, Energy, and Interior, have been authorized to act as trustees for specific types of natural resources damage. See VALERIE ANN LEE & P.J. BRIDGEN, *THE NATURAL RESOURCE DAMAGE ASSESSMENT DESKBOOK: A LEGAL AND TECHNICAL ANALYSIS* 157-67 (2002).

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the natural resources damage claim cases. The tendency to open up space for public interest litigation will give the public authorities or NGOs the possibility to bring claims for ecological damage. Furthermore, an explicit definition of the compensable ecological damage is also important, and this definition needs to be accompanied by a feasible evaluation standard. Although there have been a few cases where compensation for ecological damage was awarded for marine oil pollution, judges still struggle with how to quantify this damage. Without a clear evaluation standard, compensation for ecological damage will likely remain a solution only on paper.

The development of compensation instruments is still in its early stages in China. Some possibilities started to emerge in the insurance market in 2007, but it is reported that the coverage is still low and the premiums are comparatively high. The development of environmental liability insurance is possible only when there is a serious liability threat facing the potential polluters. The prosperity of the insurance market can be advanced with stronger policy support, including subsidies at an early stage, linking insurance coverage with pollution fees, and a green credit policy. Although China is not a member of the IOPCF, it started to establish its own Compensation Fund in 2012. This began China's attempt to use other compensation instruments to cover ecological damage in addition to insurance. Making contributions to the Compensation Fund risk related, rather than just based on the amount of oil imported, will have a stronger deterrent effect.<sup>490</sup> Theoretical models show that in cases of insolvency risks, compulsory financial security can create more efficient incentives.<sup>491</sup> However, while insurance and other compensation instruments are still new in China, a general compulsory financial security system may not be feasible. Further development of the insurance market, and alternative use of instruments, can help a progressive introduction of a compulsory system.<sup>492</sup>

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490. See WANG, *supra* note 337, at 338-43 (discussing risk differentiation in compensation funds).

491. See *generally* Faure & Liu, *supra* note 14.

492. The progressive introduction of a compulsory system can either start from specific geographical areas or certain industries. In some local areas, such as

**b. Practical Issues**

Practical obstacles to the traditional environmental liability rules prevent the rules from creating sufficient compensation or efficient deterrence, and therefore deserve equal attention.

Theoretical models show that liability rules and compensation instruments can complement regulation in providing efficient deterrence. Regulation, liability, and compensation instruments for ecological damage compose an interlinked system. Admittedly, environmental regulation is subject to weak capacity and capture problems. However, to expect the court system to fill this gap may not work out as well as predicted by the theorists in China.<sup>493</sup> To some extent, the courts in China “are better conceived of as cost-benefit-weighting government regulators rather than neutral arbiters.”<sup>494</sup> Sometimes, judges still need to make policy considerations and rely on support from the government. For instance, judges may be reluctant to accept sensitive cases, to prove the existence of harm, pollution, and causal links, and therefore, the victims need support from local environmental agencies in the form of daily monitoring data or on-site evaluation reports. The link between the public and the tort system is more obvious in the realm of ecological damage, because it is the public authority who determines whether and how to restore the damaged environment, and whether to start a claim procedure. Hence, the improvement of the liability system also depends on strengthening the regulation. Development of the insurance market is a related issue, because without serious liability threats, polluters lack incentives to buy liability insurance. Policy supports, such as linking insurance with pollution fees or other encouraging measures, can also promote the development of insurance. Therefore, one cannot expect the liability rules and compensation instruments alone to solve the problems created by ecological damage. On the contrary, regulation, liability rules,

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Changsha, the government already requires certain high-risk industries to seek insurance coverage. See Changsha Rules, *supra* note 279, art. 4.

493. See McAllister, *supra* note 466, at 5-7.

494. McMullin, *supra* note 196, at 183.

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and compensation instruments need to be developed hand-in-hand.

The Chinese regulatory system has grown in recent years, as China has been trying to enhance its environmental enforcement. Although not perfect, recent literature has highlighted a convergence towards a more coercive and formal way of enforcement.<sup>495</sup> Moreover, although judges have incentives to avoid political controversy, they do occasionally make innovations at the margins by providing new interpretations or validating new types of claims.<sup>496</sup> The attempt to establish environmental courts and allowing public interest litigation also constitute additional steps towards compensation for ecological damage. Although there is still a long way for China to go to reach a sound compensation system for ecological damage, opportunities for efforts and improvements are available at both the legislative and the practice levels.

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495. See generally Benjamin van Rooij & Carlos Wing-Hung Lo, *Fragile Convergence: Understanding Variation in the Enforcement of China's Industrial Pollution Law*, 32 L. & POL'Y 14 (2010).

496. Stern, *supra* note 154, at 91-93.