

# **A survey of the legal and policy framework for controlling, compensating and criminalizing ship-source pollution in Hong Kong**

**Ling Zhu<sup>1</sup> and Ruixuan Zhuo<sup>2</sup>**

## **1. Introduction**

Thanks to its long coastline and deep natural harbors [1], Hong Kong (HK) has enjoyed a long history of human interaction with the sea, and today it is one of the busiest and most efficient international container ports in the world. For instance, during 2015 the ports of HK handled 20.1 million TEUs of containers, and provided about 340 container liner services per week, connecting to around 470 destinations worldwide [2]. However, HK's economic advancement has come at a price—it is not surprising that its coastal waters, such as the Victoria and Tolo Harbors, areas that are scheduled for even greater increase in population and number of businesses, are already dangerously polluted [3]. Hong Kongers have also suffered greatly from sulfur dioxide-related deaths, caused by ship emissions in the Pearl River Delta, waters that are shared with Guangdong Province [4].

It makes sense, therefore, that in order to secure HK's growth and sustainability as an international city of world prominence, the government is obliged to ensure, through proper conservation and management measures, that both environmental well-being and human health are not imperiled by HK's rapid economic and industrial development. Indeed, in order to combat the hazards resulting from ship-source maritime pollution, of utmost importance is the establishment of specific laws defining and organizing the environmental protection regime, such as the series of civil and criminal environmental liabilities based on international laws and regulations. However, environmental liability is a relatively new concept in HK, and it is safe to say that as recently as the 1970s there was little awareness of environmental issues [5] on the part of the HK government, or of society in general. In other words, with regard to environmental protection, HK is still very much a developing region.

Against this background, this paper aims to solicit the views of interested parties through a questionnaire survey that explores the functional effectiveness and adequacy of HK's domestic legislative regime, which ranges from public to private law in terms of their respective positions within the continuum of control, civil remedial measures and criminal sanctions according to their particular characteristics. This is with a view to instigating law and policy reform in HK in the field of ship-source pollution law. To clarify, the public segments of the laws on ship-source marine pollution embrace the regulatory command-and-control rules adopted by HK that implement the standards and conventions adopted by

---

<sup>1</sup> Associate Professor, Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University.

<sup>2</sup> Research Assistant (August 2015 to July 2016), Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University.

the International Maritime Organization (IMO), together with the provisions of offences and corresponding sanctions under the penal law. However, the compensatory legal schemes are classed as private law.

## **2. The status quo of the legal and policy framework for combating ship-source pollution**

There is a general perception that HK is quite active in enacting marine pollution laws in respond to the persistent problem of ship-source pollution [6]. Within the existing legal framework, the subject of ship-source pollution in HK is perceived in terms of preventive and remedial measures adopted pursuant to prescriptive and mandatory requirements embodied in international convention instruments [7]. Preventive and control measures are put into place to eliminate or reduce the chances of pollution occurring (see Table 1); while remedial measures are pursued when preventive measures fail and pollution takes place (see Table 2).

(Insert Table 1 here)

(Insert Table 2 here)

The above two Tables reflect the enterprising approach taken by HK to incorporate the international dimensions of ship-source pollution issues, so as to comply with internationally uniform regulations and thus maintain its position as one of the world's leading maritime centers. In addition, to strengthen its measures for combating ship-source pollution, the Marine Department (MD)<sup>3</sup> has also introduced additional measures, such as regulating the smoke emission from vessels.<sup>4</sup> As shown, HK's civil liability regime is a fairly comprehensive system of liability which resembles the CLC 1992 and the Fund Convention 92. However, unlike the international civil liability regime, the legal framework for criminal sanctions in the context of ship-source pollution is instead left to the direction of individual states [8].

To summarize, it appears at first glance that HK has adequate laws in place to combat the threat of marine pollution from ships. However, liability for environmental harm under HK

---

<sup>3</sup> The Marine Department of the Hong Kong Government is responsible for maintaining safety and environmental protection of the harbour and of both HK registered and foreign ships in HK, as well as monitoring shipping traffic in HK waters, and search and rescue operations for large waters of the South China Sea. It also conducts investigations into marine accidents. The website for the Marine Department is <<http://www.mardep.gov.hk/en/home.html>> (accessed on July 7, 2016).

<sup>4</sup> The Government has not only implemented the MARPOL Annex VI requirements but it also upgraded the quality of local marine diesel in April 2014 and by legislation in July 2015 mandated that ocean going vessels switch to cleaner fuel while berthing. The Air Pollution Control (Marine Light Diesel) Regulation has introduced regulatory control on the quality of marine light diesel (MLD), with a view to reducing emissions from local vessels. Following the approval of the Legislative Council, the Regulation took effect on April 1, 2014. The Air Pollution Control (Ocean Going Vessels) (Fuel at Berth) Regulation mandated ocean going vessels (OGVs) to use clean fuels while berthing in Hong Kong, in order to reduce their emissions and thus improve air quality. Following the approval of the Legislative Council, the Regulation took effect on July 1, 2015. See also MARINE DEPARTMENT NOTICE NO. 56 OF 2015 (Statutory Requirements) Switch to Clean Fuel While At Berth for Ocean-Going Vessels, <<http://www.mardep.gov.hk/en/notices/pdf/mdn15056.pdf>> (accessed on 1 August, 2016).

law has been a matter of controversy for some time now. This prompts the question as to whether or not the existing civil and criminal sanctions for ship-source pollution are in fact sufficiently stringent so as to ensure the highest level possible of marine environmental protection in HK. The need to evaluate both civil and criminal liabilities for ship-source pollution in HK thus becomes apparent.

### **3. Research methodology**

The empirical data presented in the paper were collected through a questionnaire survey of 113 selected shipping and shipping-related companies of various sizes and disciplines. There were three main categories of participants: 1) Shipowners, ship managers and ship operators (n=90; Group 1), drawn from the membership directory of the Hong Kong Shipowners Association;<sup>5</sup> 2) marine insurers, especially P&I Clubs (n=20; Group 2); 3) other institutions for mariners' welfare, mainly including the seamen's union (n=3; Group 3). It was assumed that each group would represent different interests in a ship-source pollution event: Shipowners (including ship managers and operators) would seek to save on costs, and would be concerned about the safety and unimpeded movement of their vessels; insurers would be concerned over their ultimate financial responsibilities; and the seamen's unions would be interested in the welfare of their members among the crews. It was thus expected that these participants would manifest differing understandings of the existing legal and policy framework for controlling and remedying ship-source pollution, as well as have different ideas about the criminalization of ship-source pollution. This selection would result in a fuller understanding of the various concerns held by all such shipping and shipping-related industries.

Key questions in the questionnaire survey included: 1) A set of 5-point Likert scales, with statements developed from the literature review on ship-source pollution, so as to assess the adequacy and effectiveness of the current civil enforcement, as well as the practical implications of imposing criminal liability for environmental violations; and 2) a number of open-ended questions to allow participants to elaborate on their understanding and perceptions. Such a survey design was expected to reveal the attitude of HK's maritime industry towards the current legal and policy framework in HK related to controlling, compensating and criminalizing ship-source pollution.

The questionnaires were sent to the participants mainly by post, though some were sent by email on request. The responses were expected to be received back within a month, and during this time period, reminders were sent out so as to achieve a reasonable response rate. The participants' responses to the questionnaire survey were then assessed and compared. The descriptive statistics were used to examine the quantitative data (i.e. measurements using the Likert scale) and present tables and charts. The qualitative data (i.e. answers to the open ended questions) were handled following the thematic analysis approach [9],

---

<sup>5</sup> The Hong Kong Shipowners Association, <[http://www.hksoa.org/members\\_directory/shipmanagers.php](http://www.hksoa.org/members_directory/shipmanagers.php)> (accessed on May 20, 2016).

which uses the constant comparative method to reveal similarities and differences between responses.

#### **4. Survey results**

By the closing date for responding to the questionnaire, 24 recipients had sent their feedback, yielding a 21.23% response rate. Among them, 16 replies were from Group 1, indicating the considerable interest and concern of parties in Group 1 towards issues related to civil and criminal liability for ship-source pollution. 6 responses were received from Group 2, these all being P&I clubs and their correspondents. In Group 3, the seamen's union also took a positive attitude towards participating in the survey, which may indicate that they too have a strong interest in this matter.

To start with, the participants were asked about measures already adopted to control, compensate and criminalize ship-source pollution. Suggested answers included “measures in Cap. 413 Merchant Shipping (Prevention and Control of Pollution) Ordinance” and “measures in Cap. 414 Merchant Shipping (Liability and Compensation for Oil Pollution) Ordinance”. The participants were also encouraged to indicate other measures they comply with, if any. The responses showed that 83.3% of the participants comply with Cap. 413, and 79.2% comply with Cap. 414. Some respondents specifically indicated that they also adopted measures following other laws, including: Cap. 281,<sup>6</sup> Cap. 313,<sup>7</sup> and Cap. 605<sup>8</sup> (see Table 3).

(Insert Table 3 here)

##### **4.1 Evaluating effectiveness of the existing legal and policy framework for controlling ship-source pollution**

The participants were invited to evaluate the effectiveness of the existing legal and policy framework for controlling ship-source pollution in HK; responses were measured using a 5-point Likert scale, ranging from 1 “very effective”, 2 for “effective”, 3 for “neutral”, 4 for “not very effective”, and 5 for “very ineffective”. As mentioned above, there were in total 24 responses. However, 1 respondent did not reply to this question, proclaiming that he/she has “no idea” about the effectiveness of the existing legal and policy framework for controlling ship-source pollution in HK. Apart from this missing value, most respondents viewed the framework positively (with 87.5% thinking it “very effective”, “effective” or “neutral”), as shown in the table below (see Table 4). With the mean being 3.61, the majority attitude was closer to “effective”. Meanwhile, the difference among all the responses is small, given that the variance was 0.52. Most of the participants agreed that by enacting Cap. 413, HK has implemented strict port state control (PSC) inspections that are in line with both international and local standards, but without any undue pressure on the shipping community. However, they also admitted that, in fact, no big pollution incident has ever happened in HK, and therefore the effectiveness of such laws have not

---

<sup>6</sup> Cap. 281 Merchant Shipping (Local Vessels) Ordinance.

<sup>7</sup> Cap. 313 Shipping and Port Control Ordinance.

<sup>8</sup> Cap. 605 Bunker Oil Pollution (Liability and Compensation) Ordinance.

been tested. Respondents who doubted the effectiveness of the existing measures, on the other hand, provided reasons such as, “PSC inspectors should [have] check[ed] on board if they found black smoke [coming] from [a] ship and shipside stains with oil marks,” and “shipowners and ship management companies should never overlook the pressure of high cost penalties should a ship-source pollution take place.”

(Insert Table 4 here)

#### **4.2 Evaluation of the existing legal and policy framework for compensating ship-source pollution**

Participants were next invited to evaluate the adequacy of the existing legal and policy framework for compensating ship-source pollution in HK, and this was also measured by using a 5-point Likert scale, ranging from 1 for “very adequate”, 2 for “adequate”, 3 for “neutral”, 4 for “not very adequate”, and 5 for “very inadequate”.

Among the 24 completed questionnaires, again one respondent did not reply to this question. 87.5% of the participants chose “very adequate”, “adequate” or “neutral” (see **Table 5**). The average attitude is a little conservative compared with that towards the prevention and control framework, in that the mean turned out to be 2.51, indicating that the attitude of the majority was somewhere between “adequate” and “neutral”. The difference among the responses was again very small.

(Insert Table 5 here)

Participants were next invited to provide a specific reason for their choices. Overall, the participants agreed that HK’s prevailing legal and policy framework of civil liability facilitating the compensation of pollution damage victims by private, non-state interests is consistent with the international conventional regimes, i.e. the CLC/FUND regime for oil pollution, the BCLC for bunker fuel pollution, and the HNS Convention (even though it is not yet effective) relating to pollution caused by non-oil hazardous and noxious substances, and is similar to other countries’ relevant civil liability laws. Hence, sufficient measures are in place for HK to govern liability and compensation for pollution damage suffered within its waters. Although Cap. 414 is considered as “quite adequate”, one cannot overlook the fact that oil sheen can still be easily spotted on the sea surface in HK harbor. Four participants also pointed out potential defects in HK laws. For instance, one participant criticized their inability to “provide requirements for installing a (MARPOL) Annex I tank washing reception facility.” Regulation 13 of MARPOL 73/78 Annex I mandates segregated ballast tanks (SBTs), dedicated clean ballast tanks and crude oil washing systems, the installing of which would definitely increase HK’s environmental protection, but the cost of installing such SBTs would fall on HK’s shipowners. One respondent, who argued that the current compensation regime is “not very adequate”, came up with evidence that one “can easily see some oil sheen on the sea surface in the harbor.” At the same time, as another respondent commented, by imposing liability primarily on

vessels over 5,000 GRT,<sup>9</sup> smaller vessels, which are the most common locally, would rest in the balmy complacency of free and unhindered pollution activities, in effect leaving foreign vessels to pay more. One other participant even suggested that, bearing in mind the expensive labor and living costs in HK, which is much higher than the world's average, the government should be even more scrupulous in watching out for perils, rather than wake up to them when it is almost too late. It is a discernible trend that HK should increase the liability for pollution damage and the associated compensation payable to victims.

The liability and compensation regime has a significant impact on the shipowning, operating and insurance industries. Several circumstantial observations were made to further the inquiry relating to the civil liability of private actors following the occurrence of ship-source pollution and the compensation of injured parties, and the participants were asked to provide their ideas regarding: 1) where, as a result of any incident, any oil/chemical is discharged or escapes from a ship, which party shall be liable for pollution compensation; 2) where, as a result of any incident, a relevant threat of pollution contamination occurs, which party shall be liable for pollution compensation (if any); 3) in the event of an oil/chemical spill, what are the damages and costs that the liable party shall pay. They were allowed to choose more than one answer for each of those questions.

It was ascertained from the responses that 16 out of 24 respondents believed that the registered shipowner and their P&I clubs should be liable for damage caused by discharged or escaped oil/chemical from a ship, based upon the concepts of strict, primary liability on owners, compulsory insurance and the entrenchment of direct action against the insurers in the related legal regime. In addition, 14 out of the 24 respondents considered the ship operator as potentially liable parties; another 4 respondents also identified the ship's master, technical manager or other crew member as a potential defendant, if proven that his "gross" negligence resulted in the damages. The same suggestion was true in relation to damages (if any) emerging from a relevant threat of pollution contamination, in that 17 and 13 respondents, respectively, think that both the shipowner/insurer and the ship's operator could be identified as the person directly responsible. Nevertheless, 1 out of the 3 respondents also elected "others" when referring to the question of state liability, which falls outside the present inquiry. A significant number of respondents, 23 and 21 respectively, believed that liability for "pollution damage" would cover losses and damages outside the ship caused by contamination by oil, including the cleanup expenses, third party damages such as physical damage to property, and consequential economic losses to tourism or fishing facilities. Meanwhile, 19 out of 24 respondents thought that the costs of repairing damage to the environment would be compensated; and 18 out of 24 respondents believed that the costs of assessing damage to the environment falling under the definition of "pollution damage" would be recoverable. In only 2 responses did the participants mention that compensation under HK's civil laws extends to the costs incurred by efforts to prevent/minimize damages and further loss or damage caused by preventive measures,

---

<sup>9</sup> Section 9 (2), Cap. 414 Merchant Shipping (Liability and Compensation for Oil Pollution) Ordinance.

which may indicate that the maritime industry is less concerned with the subject of compensation for preventive costs.

The strict, no-fault liability on the liable party is balanced by recognition of the concept of “limitation”, whereby the liable party is accorded the right to restrict his liability for third party claims (including for pollution damage) to a certain maximum amount beyond which he is not responsible. Relevant sections of Cap. 414 provide detailed rules for a liable party to limit his liability, as well when the limitation could be broken.<sup>10</sup> With regard to the limitation amount, the responses were varied: 1) 13 out of 24 respondents gave their assent (either “strongly agree” or “agree”) to the statement that the relevant amount is high enough. In their opinion, HK is quite a pollution-free port; there is no need for tougher regulations. Since the level afforded to the liable party under HK law has been slightly increased as compared to that under the CLC, the current existing limitation implies a perfect balance. Any change of limitation amount and rules is absolutely unnecessary. 2) At the same time, however, 7 respondents’ viewpoints toward this statement turned out to be “neutral”, and 2 even made objection (“disagree”) and argued that the existing liability limitation ceiling is not aptly prescribed. The latter were thus attempting to change and improve the current system. In particular, it was proposed by one respondent that an effective calculation of the limitation amount “should actually [be] based on oil/chemical carrying capacity of the vessel.” It was also anticipated that HK would probably sign up for the 2003 Fund Protocol, with limitation amounts effectively restored to a higher level. 3) Amidst these debates, 2 out of 24 participants did not answer this question. Based upon the variances of the data, the following table (see Table 6) suggests that the opinions of the respondents regarding the adequacy of liability limitation ceilings did not coincide.

(Insert Table 6 here)

#### **4.3 Evaluating the understanding and effectiveness of criminal liability for ship-source pollution**

The participants were invited to evaluate the effectiveness of HK’s existing legal and policy framework for exercising criminal jurisdiction over a perpetrator of ship-source pollution. Among the 24 completed questionnaires, 1 and 6 respondents, respectively, identified environmental offences under HK law over perpetrators of ship-source pollution as “very effective” and “effective”. 13 respondents contended that the statement is “neutral”, while only 2 respondents thought it to be “not very effective”, and felt that “the fine is too low”, “[the criminal liability scheme] is not fully implemented and/or not be taken seriously” (see Table 7). The response from the maritime industry is quite telling, given that in the past decade or so there have been few reports of HK resorting to criminal sanctions or threats thereof for ship-source pollution; if there have been any recently, they must be for quite minor incidents. Yet another concern relates to the increasing trend to criminalize ship masters and crew in the aftermath of an incident. By pointing out that today “seafarers are professionals [and] have [a] sense of protecting the environment”, respondents argue

---

<sup>10</sup> Section 9, Cap. 414 Merchant Shipping (Liability and Compensation for Oil Pollution) Ordinance.

in various respects to prove that the development of the criminalization of seafarers is undesirable, primarily because it often results in plea bargains which do not reflect the master's or crew member's true degree of culpability for a vessel accident. Given that the penalties for infringements of provisions to protect the marine environment can include significant fines in most cases, and imprisonment on certain occasions, the respondents condemn the current criminal regime as "[being] hostile towards crew members, which is unfair"; and "...no one likes to see seafarers end up in prison sometimes, for no fault of their own...". It was also mentioned by participants that placing seafarers under criminal offences for oil pollution due to his "human error" is going to make it more difficult to recruit: "Who will want to join the sea if this is the case?" Although local prosecutors often file criminal charges against a vessel's master, one respondent advocated that "criminal action, if any is envisaged, should encompass all parties, including the classification society, Port State authorities, and all other regulatory bodies connected to the vessel that is involved in a pollution incident." Another respondent also held to this viewpoint, and proposed that "officers/engineers responsible for willful pollution should be handed stricter punishments."

(Insert Table 7 here)

Having addressed its usefulness and effectiveness, other details of the emerging criminal law regime fell into place in the questionnaire. First, in terms of personnel who could be subject to criminal sanctions, the participants could choose from: 1) the registered owner; 2) the operator; 3) the demise charterer; 4) the master; 5) the crew members; 6) the corporate officers; and 7) the classification society. They were able to choose more than one answer. In total, the largest category of party that may be prosecuted for criminal liability once a ship-source marine pollution incident occurs is believed to be the master (15 out of the 24 respondents). The next largest category of personnel who may be prosecuted is the registered shipowner (14 out of the 24 respondents). The number of choices for the operator, the demise charterer and the crew member is also high as a percentage of all personnel charged, at 41.67%, with each option receiving an equal number of votes (10 respondents). There was a downward shift in the number of choices for corporate officers (6 respondents), and only 2 respondents viewed the classification society as being criminally liable under HK law. Moreover, the list of persons that could be held criminally liable also includes "any person and/or regulatory body that is connected to the vessel". However, the industry presented a conservative attitude towards penalizing ship-source pollution: Criminal prosecution should not be automatically charged unless investigations demonstrate that the above mentioned person has shown gross negligence or fault and that this was the direct cause of the incident; there should be no criminal action if the cause is proven accidental (see Fig. 1).

(Insert Fig. 1 here)

Second, participants were asked to express their understanding of the conditions for constituting a criminal offence in ship-source pollution incidents. There were five hypothetical statements concerned with different types of environmental violations: 1) It is



a criminal offence to deliberately discharge oil/chemical into the waters of HK (DEL); 2) in the event of an accidental discharge of oil/chemical into the waters of HK, criminal liability should be imposed when the liable party acted with intent (INT); 3) in the event of an accidental discharge of oil/chemical into the waters of HK, criminal liability should be imposed when the liable party acted recklessly with knowledge that damage would probably result (RWK); 4) in the event of an accidental discharge of oil/chemical into the waters of HK, criminal liability should be imposed when the liable party acted negligently (NEG); and 5) in the event of an accidental discharge of oil/chemical into the waters of HK, it is a criminal offence for failing to comply with the directions given by the Director of Marine of HK (FOC). According to **Table 8.1** and **Table 8.2**, all participants expressed their views on DEL. 91.7% of them think that it would not be unacceptable for the law to make deliberate pollution conduct criminally punishable (among them, 54.2% chose “strongly agree”, 29.2% chose “agree”, and 8.3% chose “neutral”). The attitude in general towards this statement is quite progressive, the Mean being 4.25, which is in between “strongly agree” and “agree”, and is close to “agree”. As for the statement concerning INT, there were 23 replies from 24 respondents, 79.2% of the respondents agreed or strongly agreed with the law specifying that intentional acts of ship-source environmental violations could incur criminal liability; 12.5% of the respondents stayed “neutral”, but 4% of the respondent strongly disagreed with it. The Mean is 3.96, which is very close to “agree”, and the difference among the respondents seems not that obvious, with the Std. Deviation being .88. For RWK, 23 responses were received, with 1 respondent missing. More than seventy percent of the respondents (12 participants chose “agree” and 5 of the 23 chose “strongly agree”) think the defendant may be accused of recklessness if he already knows full well that damage would probably occur. At the same time, the options “neutral” and “disagree” are chosen by 13%. As regards NEG, it is interesting to learn that the options chosen for, against and neutral with regard to imposing criminal liability on a liable party who has acted negligently are in a dead heat. The Mean turns out to be 3, and the difference among the responses is the largest of the five hypothetical situations, with the Std. Deviation being 1.13. These varied opinions reveal that the industry is uncertain over the question as to whether infringements caused by negligence (gross or ordinary) are serious enough to deserve criminal sanctions. In the case of failure to comply with the directions given by the Director of Marine, 62.5% of the participants either “strongly agree” or “agree” to bringing criminal charges, which may suggest there is much more room for seriously considering this suggestion. The average attitude is somewhat conservative, with the Mean being 3.58; the difference among the responses is relatively large, with the Std. Deviation being .93.

(Insert Tables 8.1 and 8.2 here)

Third, the participants were next invited to examine the forms of criminal penalties and punishments that apply to polluters, there being two proposed criminal charges: Monetary fines imposed on both individual and legal entities, as well as incarceration for convicted culprits. As for the former, 13 and 15 replies, respectively, out of 24 completed questionnaires, agreed (“strongly agree” or “agree”) with the statement that imposing

monetary fines on individuals and legal entities for criminal charges is effective. Yet some respondents disagreed with individuals (4 out of 24) or legal entities (4 out of 24) being hit by monetary fines (**see Table 9**). Furthermore, with respect to the adequacy of monetary fines prescribed by provisos from relevant HK Ordinances, only 34.8% of the 23 responses received viewed the current stipulation positively; whereas the majority remained neutral to the current monetary sanctions level (with the Mean being 3.22) (**see Fig. 2**), and claimed that the insufficient maximum fine may not act significantly enough to prevent pollution incidents. Concerning the sentence of imprisonment, 60.9% of the participants regarded it as an effective measure to keep potential polluters wary of shipborne pollution incidents. Overall, the results suggest that 40.9% of the respondents are satisfied with HK's provisions for imprisonment (**see Table 10**); however, as far as the imprisonment sentence goes, a considerable number of the respondents (those choosing "disagree" and "neutral") believe that improvements must be made, including detailed principles and workable regulations, to make the provisions on imprisonment more adequate (**see Fig. 3**).

(Insert Table 9 and Fig. 2 here)

(Insert Table 10 and Fig. 3 here)

## 5. Discussion

In the survey, three main aspects of combating ship-source pollution were considered, these being controlling, compensating and criminalizing ship-source pollution. Accordingly, three important results have been revealed from our study. First, the maritime industry is in general satisfied with the effectiveness of the existing legal and policy framework for prevention and control of ship-source pollution in HK. Second, the adequacy of the civil liability regime for ship-source pollution compensation, as laid down in the international conventions and local legislations, was challenged by some participants, especially as to the limitation of liability and the definition of pollution damage. Third, with regards to the issue of criminal liability and sanctions for ship-source pollution, the survey shows that much still needs to be done to achieve more widespread understanding of this legal instrument. It should be noted that the major weakness to exercising criminal jurisdiction over a perpetrator of ship-source pollution in actual fact lies within the contents of HK criminal law.

First, control is of the utmost importance, since prevention is better than cure. In HK, as a major port state, ocean-going vessels make up the major proportion of its sea traffic. As discussed earlier, through various pieces of legislation, MD has been enforcing maritime pollution controls, as stipulated in the above international conventions, by means of surveys and certification of HK-registered ships and locally licensed vessels, as well as conducting PSC inspections of foreign ships within HK waters. In recent years, relatively few oil/chemical pollution spills have occurred in HK ports during loading, discharging, bunkering, grounding or collision. This is because, on the one hand, the owners, classification society and crew are all mindful of compliance with the above requirements, and have been diligently handling the oily/chemical goods and/or wastes in accordance

with the regulation requirements. On the other hand, it is thanks too to MD's industrious PSC inspections of each ship's oil/water monitoring equipment, its Oil Record Book, its sewage treatment plant, as well as the documentation, packaging, stowage and labelling of the cargoes. Nevertheless, some participants still questioned whether HK has gone far enough to secure PSC investigations, one recent concern relating to the problem posed by harmful organisms transmitted by the carriage of ballast water. To prevent these disease-carrying vectors and contaminants from being released into the marine environment, equipment for segregated ballast tanks (SBTs), dedicated clean ballast tanks and crude oil washing should be in place according to MARPOL.

Second, the usefulness of civil liability is re-assessed, given something of a consensus that traditional forms of regulation are reaching the limits of their effectiveness, and that new approaches to environmental law may be necessary. From the survey results, it is clear that the existing legal and policy framework in HK for civil liability and compensation for victims of ship-source pollution is not a perfect one, since, according to the above Table 5, only 52.1% of the respondents believed that the current framework is "adequate" (47.8%) or "very adequate" (4.3%). In the survey results, the participants critically reviewed the current civil liability regime according to these three criteria:

The first criterion was that there is a too general and narrow definition of "pollution damage". "Pollution damage" is defined in a general way; however, it is also noted that a general definition of "damage" gives considerable freedom of interpretation to the courts of the contracting states [10]. Meanwhile, as some scholars have suggested, the sufficiency of the compensation regime is also to be evaluated in terms of the types of damage that are covered by the regime [11]. The CLC, BCLC and HNS Conventions limit liability for environmental damage to "... the costs of reasonable measures of reinstatement actually undertaken or to be undertaken." However, due to the fact that environmental damage can be wide—including damage to water quality, marine resources and natural coastal or recreational resources etc.—some scholars purport that compensation should be provided beyond just where damage of the environment can be quantified in monetary terms [12]. Other factors, such as loss of use, loss of enjoyment or loss of existence, should be compensable as well. It is claimed by environmentalists that the policy behind the international approach that one cannot give a monetary award to something that does not have a monetary value is no longer adequate, and in fact now constitutes the principal deficiency in the convention regimes. In contrast, those who support the exclusion of a comprehensive definition of environmental damage feel that assessing such damages for injury to, or destruction of, natural resources is an extremely difficult problem. This is because, first of all, even though some theoretical models developed by other countries (such as the US) could shed some light on this issue, the reasonableness and reliability of theoretical models have not been widely recognized [13]. In addition, compensation for injury to, or destruction of, natural resources as a result of ship-source marine pollution is not consistent with the role of HK tort law and the elements of compensable damages recoverable by tort victims in HK. Also, awarding "non-pecuniary" damages which have no commercial integrity is doubted in essence to be a "punitive" one [14]. If the damage

types were to be extended, it would very likely be that the amounts available for compensation have to be raised accordingly [15].

The second criterion was the dissuasive effect of the regime caused by the exclusive channeling of liability. In brief, the liability for pollution damage is channeled to the registered owner only in most pollution incidents, except for a bunker oil pollution incident, where, besides the registered owner, bareboat charterer, manager and operator of the ship shall all be held liable<sup>11</sup>. Nevertheless, even in a bunker oil pollution incident, it is likely that the registered owner will be the one held liable, “since the registered owner is the party that is required to take out insurance to secure prompt and adequate compensation to pollution victims” [16]. In addition, the current civil liability regime was also considered unsatisfactory due to the fact that the fiscal limitation of a shipowner’s general strict liability was almost unbreakable, but that cargo owners are seen to have no responsibility in the first place. As a consequence, parties other than shipowners in oil/chemical transportation activities are not given sufficient incentive to stop the practice of deliberately sending out vessels even when the conditions are appalling. What is more, the shipowner’s liability is calculated solely on the basis of the ship’s size (tonnage), without taking into account other relevant factors, such as the nature of cargo carried and the amount of oil/chemical spilled. One of the participants even suggested that the threshold or loss of limitation should be based on the actual carrying capacity of the vessel.

The third criterion was whether there is a sufficiently high compensation limit. Limitation of liability is a long-standing rule applicable to all areas of a shipowner’s liability. Without much debate, those drafting the civil liability conventions unanimously agreed to make it possible to limit the liability for pollution [17]. On the one hand, unless strict liability for pollution is limited, the industry would not carry out hazardous activities that are essential to society, because the risk generated from the activities would be greater than the profit [18]; also, limited liability makes it possible for shipowners to take out insurance [19]. On the other hand, however, the adequacy of compensation available under the civil liability conventions are questionable, and the pollution victims’ claims may not be fully met in certain cases [20]. In our survey, some of the participants actually observed and pointed out that the amounts of limitation set by the CLC and Fund Convention is too low, and thus considered insufficient to fully cover any potential disaster, with the result that victims of serious oil/chemical spills may remain not fully compensated. In other words, assuming that the damage caused to society is far beyond the limitation ceilings, there is likelihood that the savings from spilling the oil/chemical would exceed the cost of discharging it legally, thus causing the shipowner to actually “benefit” from limited liability. In 2003, the two-tier civil liability regime for marine oil pollution established through the CLC 1992 and the Fund Convention 1992 was again amended to ensure that it will be sufficient to adequately meet the compensation needs of pollution victims.<sup>12</sup> Therefore, in order to

---

<sup>11</sup> The BCLC, Article 3(1).

<sup>12</sup> In 2000, the limitation of liability was increased by 50%, and in 2003, another Protocol on the Establishment of a Supplementary Fund for Oil Pollution Damage was adopted whereby a Supplementary

strengthen both the preventive and punitive effects, the survey result showed that the maritime industry considered that the HK Government should adopt the 2003 Protocol, and that this in fact would not be a fundamental problem.

Third, the survey results also present evidence of the justification for criminalization of marine pollution incidents. Besides the shortcomings of the existing civil liability regime as discussed above, another serious problem is the fact that tanker owners often organize their own insolvency by creating so-called single ship legal entities, for example, to limit their compensation obligations to the value of the ship [21].

The United Nations Convention on the Law of the Sea (UNCLOS), which is the “Constitution for the Oceans”, allows the flag State “to take any measures...to impose penalties, irrespective of prior proceedings of another State”,<sup>13</sup> and states that the penalties “shall be adequate in severity to discourage violations wherever they occur.”<sup>14</sup> In respect of violations by ships flying a foreign flag, only monetary penalties can however be imposed, except in the case of willful and serious acts of pollution in the territorial sea.<sup>15</sup> Accordingly, the provisions in Part XII of UNCLOS directly set forth general guidance covering the institution of criminal proceedings and the criminal penalties thereof; in addition, some researchers refer to MARPOL as a source of “indirect” criminal law (for environmental offences)[22]. However, since the international conventions have not indicated how national legislation implementing the conventions should be enforced, this has created uncertainty over the sanctions applicable to non-compliance with international conventions. In some states the sanctions applicable to the violation of rules for the prevention of marine pollution are not sufficiently severe, given that administrative fines have sometimes been introduced after violations have occurred because imprisonment was not always possible. Considering these well-known shortcomings, it has been indicated that the usefulness of existing civil and administrative legal instruments is reaching the limits of their effectiveness when applied to environmental problems. It is hence an important argument that criminal law may be more warranted with respect to the deterrence effect of environmental violations than other forms of regulations, given something of a consensus that the types and magnitudes of sanctions imposed are substantially stringent; in addition, criminal enforcement would contribute to remedying damage caused by the pollution accident.

Why is criminal liability needed to remedy ship-source pollution damage in HK? Our survey, as shown in the previous section, considered participants’ opinions from three different aspects under the present HK law: 1) What kind of ship-source pollution should involve criminal liabilities? 2) What kind of people should be investigated for criminal

---

Fund of SDR 75 million was established to ensure additional compensation is available to victims in those states that have ratified the 2003 Protocol.

<sup>13</sup> UNCLOS, Art. 228.3.

<sup>14</sup> UNCLOS, Art. 217.8.

<sup>15</sup> UNCLOS, Art. 230.1&2.

liabilities? 3) What should the sanctions be for a perpetrator committing a criminal offence in connection with ship-source pollution?

All the participants agree that it constitutes a criminal offence to deliberately discharge oil/chemical into HK waters, and that the government should act without any exception in their approach to investigating and prosecuting deliberate MARPOL violations. Aside from ship-source pollution incidents resulting from deliberate discharges, a principal source of marine pollution, which is addressed by both international and HK domestic environmental laws and regulations, is accidental discharges where the pollution is created when the shipowner or master acts with intent, or recklessly with knowledge that damage would probably result. The HK government is clearly prepared and willing to pursue criminal sanctions for pollution and other consequences arising from maritime accidents. With regards to the *mens rea* requirements,<sup>16</sup> HK criminal law recognizes the necessity of personal guilt, that is, that there is no criminal liability without intention, recklessness, or at least negligence [23]. When asked whether, in the case of a perpetrator who has acted with a) intention to pollute; 2) recklessness and with knowledge that damage could probably result; or c) just inadequate negligence (i.e. he could not even think about a possible prohibition if he was aware of the situation), a majority of the participants believed that, as the three instances illustrate, a person's mental situation should not influence judgments about the commission of an offence. At the same time, no one doubted the stipulation under Section 8 of Cap. 414, that once an accident has occurred and hence created the potential risk of oil or other kinds of pollution in HK waters, failure to comply with directions given by the MD to avoid or reduce pollution or the risk of pollution also constitutes a criminal offence.

Depending on the circumstances, criminal charges may be brought against individuals, as well as the corporate entities that own, manage, or operate the vessel. According to the provisions in Section 3 of Cap. 413, once the ship-source marine pollution has occurred, the shipowner, the operator, the demise charterer, the master of the ship or any other person who is deemed to have contravened the regulations could each be criminally liable. Even when the pollution is directly caused by the act of an individual, his supervisory party, for example, his employer, may be charged for a criminal offence with strict liability in order to effectively promote the objectives of the relevant statute [24].<sup>17</sup>

---

<sup>16</sup> R. v. Sault Ste. Marie [1978] 40 C.C.C. (2d) 353 (S.C.C.), per Dickson J.: "... In the case of true crimes there is a presumption that a person should not be held liable for the wrongfulness of his act if that act is without *mens rea*..." In the same case, Dickson J. also referred to a "field of conflicting values" in support of the "halfway-house" proposition lying halfway between strict liability and *mens rea* in terms of characterization of typical pollution offences.

<sup>17</sup> HKSAR v. Paul Y-ITC Constitution Ltd [1998] 2 HKLRD 35 CA, following the principle established in Gammon v. A-G of Hong Kong [1984] 3 WLR 437 PC, that once the statute is concerned with an issue of public safety or social concern, the presumption of *mens rea* can be displaced and the supervising party of the person who directly committed the offence will have a strict liability. In Alphacell v. Woodward [1972] 1 QB 127, the appellants had been convicted under s. 2(1) of the Rivers (Prevention of Pollution) Act 1951 because the House of Lords decided the offence was one of strict liability because it concerns issues of public

The potential criminal liability of individuals may lead to arguments as to whether it is reasonable to put seafarers under heavy onerous financial penalties, or even incarcerate them, as scapegoats for the supervisory/management personnel's guilt. In the survey, the participants pointed out that generally crew/ship managers are against criminalization. However, the results also showed that "criminalization", as understood by most participants, seems to be mere "imprisonment". At the same time, most of the participants believed that fines have always been considered as the preferred sanction in economic theory, for the simple reason that the costs of imposition are low, and that fines in fact only generate money for the public budget. However, to achieve optimal deterrence through fines, the fines must be assessed in proportion to the economic capacity of the enterprise or personnel. With regard to jail sentences, a distinction should be made so that this form of punishment also takes into account the mental status of a perpetrator. As far as an offence of negligence is concerned, it seems desirable to use a less costly behavior modification to "punish" the seamen; for instance, the court could order the implementation of new training programs and other protective measures.

## **6. Conclusion and policy recommendations**

This paper has examined the efficiency and adequacy of the legal and policy framework for combating ship-source pollution in HK. By conducting a questionnaire survey, the study has collected useful findings that provide evidence and insightful reflections on the existing legal and policy framework covering ship-source pollution.

Based on the findings, the following policy recommendations can be considered:

1. HK needs to reinforce PSC measures.
2. Despite its well-structured civil liability regime, HK may have to consider increasing the limits for the civil liability of private actors. The likely solution is for the Legislative Council to adopt the 2003 Fund Convention Protocol.
3. Legislators should continue to refine the criminal prosecution of fundamental environmental violations by applying clear procedures, as well as "effective proportionate and dissuasive" sanctions.

Reducing ship-source marine pollution is a long-term task that cannot be resolved using a single approach. In today's environmentally conscious world, it is extremely important that everyone involved in the operation of a vessel is aware of and prepared for possible civil and criminal investigation and liability following maritime accidents and intentional violations of both international and local environmental regulations.

## **Acknowledgements**

---

safety. In this way, the Cap. 413 Merchant Shipping (Prevention and Control of Pollution) Ordinance should also be regarded as concerning public safety issues.

The writing of this article is financially supported by a research grant from the Public Policy Research project sponsored by the Central Policy Unit of Hong Kong SAR 2015-16 (First Round) (Project Number: 2014.A6.048.15A). The authors would like to thank all the participants that generously supported and participated in our questionnaire survey, as well as to thank the editors and reviewer for their useful comments. The authors also agree to remain responsible for any errors in the paper.

## References

- [1] See *Reading Hong Kong, Reading Ourselves*, ed. J. Curry and P. Hanstedt (City University of Hong Kong Press, 2014), 144.
- [2] For information on the container handling capacity of HK ports, see Hong Kong Maritime and Port Board Website, available at: <http://www.hkmpb.gov.hk/en/port/port.html> (accessed 17 May 2016).
- [3] J. Lyne, "Environmental Litigation in Hong Kong", *Asia Pac. J. Envtl. L.* 2 (1997) 39-48, at 41-42.
- [4] See L. Zhu, H. Jessen & M. Zhang, "The Way Forward for Hong Kong to Combat Vessel Source Emission in the Pearl River Delta Region," *Ocean Development & International Law* 46 (2015) 208-224; see, generally, A. Lau et al., "Relative Significance of Local vs. Regional Sources: Hong Kong's Air Pollution," (2007), available at [http://www.hongkongcan.org/doclib/200703RelativeSignificanceofLocalvsRegionalSources\\_Hong%20KongsAirPollution.pdf](http://www.hongkongcan.org/doclib/200703RelativeSignificanceofLocalvsRegionalSources_Hong%20KongsAirPollution.pdf) (accessed 7 July 2016); and Grigory Kravtsov, "Ship emissions blamed for worsening pollution in Hong Kong", *CNN*, 19 Dec 2013, available at <http://edition.cnn.com/2013/12/19/world/asia/hong-kongs-worsening-ship-pollution/> (accessed 7 July 2016).
- [5] J. Lyne, *supra* note 3, at 40.
- [6] L. Zhu and S. K. Agarwal, "A Review of the Legal and Policy Framework for Vessel Source Pollution in Hong Kong," *Ocean Development & International Law* 42 (2011) 264-279, at 264-265.
- [7] *Ibid.*, at 268-272.
- [8] A. Pozdnakova, *Criminal Jurisdiction over Perpetrators of Ship-Source Pollution; International Law, State Practice and EU Harmonization*, (Brill/Nijhoff, 2012), 2.
- [9] G. Guest et al., *Applied Thematic Analysis*, (Sage Publications, 2012), 10.
- [10] M. Jacobsson and N. Trotz, "The Definition of Pollution Damage in the 1984 Protocol to the 1969 Civil Liability Convention and the 1971 Fund Convention" (1986) 17 *Journal of Maritime Law and Commerce* 467, 481.



- [11] P. K. Mukherjee, "Economic Losses and Environmental Damage in the Law of Ship-Source Pollution" in Aldo Chircop *et al.* (Eds.) *The Regulation of International Shipping: International and Comparative Perspectives, Essays in Honor of Edgar Gold*, Leiden, Boston: Martinus Nijhoff, 2012; see also, L. Zhu & Y. Zhao, "A feasible assessment of the application of the Polluter-Pays Principle to ship-source pollution in Hong Kong," *Marine Policy* 57 (2015) 36-44, at 42.
- [12] R. Force, "A Comparison of the Recovery of Compensation for Injury to Natural Resources under the 92 CLC and Fund Conventions with the US Oil Pollution Act of 1990," in *Marine Pollution Liability and Policy: China, Europe and the US*, ed. M. G. Faure *et al.*, (Wolters Kluwer Law & Business, 2010), 264.
- [13] L. Zhu & Y. Zhao, *supra* note 11, at 42.
- [14] *Ibid.*
- [15] H. Wang, "Recent Developments in the EU Marine Oil Pollution Regime," in *Prevention and Compensation of Marine Pollution Damage: Recent Developments in Europe, China and the US*, ed. M. G. Faure and J. Hu (Kluwer Law International, 2006), 21.
- [16] L. Zhu, "Is the Polluter Paying for Vessel-Source Pollution?," *Journal of Business Law*, 2015, 4, 348-360, at 354.
- [17] Colin M. De la Rue and Charles B. Anderson, *Shipping and Environment* (Informa Law from Routledge, 2009), p. 113.
- [18] W. Chao, *Pollution from the Carriage of Oil by Sea: Liability and Compensation* (London: Kluwer Law International, 1966), p.62.
- [19] D. Steel, "Ships are Different: The Case for Limitation of Liability", *Lloyd's Maritime and Commercial Law Quarterly* (1995), pp. 77-87, at 87.
- [20] G. Gauci, "Limitation of Liability in Maritime Law: An Anachronism?," 19 *Marine Policy* 65 (1995), pp. 65-74, at 66; see also L. Zhu, "Can the Bunkers Convention Ensure Adequate Compensation for Pollution Victims?" (2009) 40 *Journal of Maritime Law and Commerce* 203.
- [21] M. G. Faure, "Criminal Liability for Oil Pollution Damage: An Economic Analysis," in *Prevention and Compensation of Marine Pollution Damage: Recent Developments in Europe, China and the US*, ed. M. G. Faure and J. Hu (Kluwer Law International, 2006), 164.
- [22] Pozdnakova, *supra* note 8.
- [23] V. W. K. Ho, *Criminal Law in Hong Kong* (Kluwer Law International, 2011), 68-72.
- [24] P. K. Mukherjee, "The Penal Law of Ship-Source Marine Pollution: Selected Issues in Perspective", in Tafsir Malick Ndiaye & Rudiger Wolfrum (Eds), *Liber Amicorum*

*Judge Thomas A. Mensah: Law of the Sea, Environmental Law and Settlement of Disputes*”, Max Planck Institute for Comparative Public Law and International Law, Leiden, Boston: Martinus Nijhoff September 2007, pp. 463–496: at p. 484: “... the fundamental tenet of penal law that the punishment should fit the offence is preserved”. It is also pointed out by the same Professor that “strict liability” in penal law terms cannot attract a high level sanction as in the case of a *mens rea* offence.