

**REGIONAL REVIEW**  
**ON THE STATUS OF IMPLEMENTATION OF**  
**MARINE/COASTAL-RELATED MEAs IN THE EAST**  
**ASIAN SEAS REGION**

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## List of acronyms

AMSA	Australian Maritime Safety Authority
AQIS	Australian Quarantine and Inspection Service
ASEAN	Association of South East Asian Nations
ASEAN-OSRAP	ASEAN Oil Spill Response Action Plan
AUSMEPA	Australian Marine Environment Protection Association
BWM	International Convention for the Control and Management of Ships' Ballast Water and Sediments
COBSEA	Coordinating Body on the Seas of East Asia
DAFF	Department of Agriculture, Fisheries, and Forestry of Australia
DENR	Department of Environment and Natural Resources of the Philippines
DEWR	Department of Environment and Water Resource of Australia now the Australian Government Department of the Environment, Water, Heritage and the Arts (DEWHA)
DOE	Department of Environment of Malaysia
EEZ	Exclusive Economic Zone
GEF	Global Environment Facility
GloBallast	GEF/UNDP/IMO Global Ballast Water Management Programme
GPA	Global Programme of Action on the Protection of the Marine Environment from Land-based Activities
IBC Code	International Bulk Chemical Code
IGR	Intergovernmental Review Meeting of the GPA
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
JSCOT	Joint Standing Committee on Treaties of Australia
KCG	Korea Coast Guard
MAB	Mines Adjudication Board of the Philippines
MARPOL 73/78	International Convention for the Protection of Marine Pollution from Ships
MEA	Multilateral Environmental Agreement
MEPC	Marine Environment Protection Committee of IMO
MEWR	Ministry for the Environment and Water Resources of Singapore
MIMA	Maritime Institute of Malaysia
MOE	Ministry of Environment of Korea
MOMAF	Ministry of Maritime Affairs and Fisheries of Korea

MOAC	Maritime and Ocean Affairs Centre of the Philippines
MoU	Memorandum of Understanding
MPA	Maritime and Port Authority of Singapore
MSA	Maritime Safety Administration of China
MSC	Malacca Straits Council
NGO	Non-Governmental Organization
NIA	National Interest Analysis
NOSCP	National Oil Spill Contingency Plan of Singapore
NOWPAP	Northwest Pacific Action Plan
NPA	National Programme of Action of the GPA
NPMC	National Plan Management Committee of Australia
NRMMC	Natural Resource Management Ministerial Council of Australia
NWI	National Water Initiative of Australia
OPRC	International Convention on Oil Pollution Preparedness, Response and Co-operation
OPRC-HNS Protocol	Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances
OSPAR	Oil Spill Preparedness and Response Project
PAB	Pollution Adjudication Board of the Philippines
PETRONAS	Petroleum Nasional Berhad of Malaysia
PIMMAG	Petroleum Industry of Malaysia Mutual Aid Group
PSC	Port State Control of Korea
SCIES	South China Institute of Environmental Sciences
SEPA	State Environment Protection Agency of China
SOA	State Oceanic Administration of China
TACC	Technical Advisory and Consultative Committee of Australia
TTEG	Tripartite Technical Experts Group on the Safety of Navigation in the Malacca and Singapore Straits by the littoral states Indonesia, Malaysia and Singapore
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

## 1. Introduction

The Coordinating Body on the Seas of East Asia (COBSEA) was established by five countries under the umbrella of the Global Regional Seas Programme of the United Nations Environment Programme (UNEP) in 1981. The main responsibility of COBSEA is to coordinate the implementation of the Action Plan for the Protection and Development of the Marine Environment and Coastal Areas of the East Asian Seas Region.<sup>1</sup> At present, COBSEA consists of ten member countries, namely, Australia, Cambodia, China, Indonesia, Republic of Korea, Malaysia, Philippines, Singapore, Thailand and Viet Nam (hereinafter called COBSEA member countries). Through its Secretariat Office based in Bangkok, COBSEA is responsible for co-coordinating the activities of governments, Non-Governmental Organizations (NGOs), UN and donor agencies, and individuals in caring for the region's marine environment in the East Asian Seas.

In January 2006, the COBSEA held its eighteenth intergovernmental meeting in Sanya, Hainan Province, China, with its member countries. The member countries expressed the wish for COBSEA to focus on capacity building activities for the effective implementation of the marine related environmental conventions and agreements. Responding to this call, a capacity building activity on the regional review of implementation of marine/ocean related Multilateral Environmental Agreements (MEAs) was incorporated in the 2007 work plan.

There are many conventions that deal with a variety of environmental issues, some of them specifically related to the marine environment. There are also non-legally binding agreements relevant to the protection of the marine environment. These conventions and non-legally binding agreements tend to address common problems encountered by many of the countries in the East Asian Seas region and have contributed greatly to the protection of marine environment and sustainable development of the region. However, there are often obstacles affecting the effective implementation of these conventions and agreements. Such obstacles often include:

- Absence of accepted ratification procedure within the country;
- Absence of domestic legislation to implement the conventions;
- Lack of comprehensive enforcement measures;
- Limited access to scientific data and information;
- Inadequate allocation of resources for implementation of the conventions;
- Lack of national coordinating mechanisms; and
- Lack of comprehensive stakeholder consultation processes.

In order to address the obstacles encountered by the COBSEA member countries in the implementation of a number of selected priority MEAs, capacity building activities are needed so as to facilitate their effective implementation.

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<sup>1</sup> The East Asian Seas Action Plan was approved in 1981 stimulated by concerns on the effects and sources of marine pollution. The main components of the East Asian Seas Action Plan are assessment of the effects of human activities on the marine environment, control of coastal pollution, protection of mangroves, seagrasses and coral reefs, and waste management. More details are available from: <http://www.cobsea.org>.

## 1.1 Objectives

The main objectives of this review were:

- To review the national implementation status of the MEAs among the COBSEA member countries with specific emphasis on institutional, financial and legal arrangements;
- To identify the obstacles affecting the effective implementation of the various MEAs; and
- To identify capacity building needs at national and regional levels.

Five MEAs (four conventions and one non-legally binding agreement) were selected to represent the main marine pollution-related MEAs. The five MEAs that were selected for this review are:

- International Convention for the Prevention of Pollution from Ships (MARPOL 73/78);
- Convention on Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention);
- International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC);
- International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM); and
- Global Programme of Action on the Protection of the Marine Environment from Land-based Activities (GPA).

Among the COBSEA member countries, the People's Republic of China (China) was identified as the lead country for this activity. The State Environment Protection Agency (SEPA) of China nominated the South China Institute of Environmental Sciences (SCIENS) as the implementing agency in dealing with matters related to this review.

## 1.2 Review method

This review was undertaken predominantly as a desk-top literature study with two main sources of information. The COBSEA member countries provided substantive input by completing a "Questionnaire on the Status of National Implementation of Marine/coastal related MEAs" (national questionnaire) that had been designed by SCIENS. In the national questionnaire, special emphasis was given to the institutional, financial and legal arrangements among the COBSEA member countries for the implementation of the five selected MEAs.

The national questionnaire comprised a total of 36 questions divided into three sections. Section I focused on the general status of national implementation of the five selected MEAs and any related issues. Section II focused on identifying key areas of challenges encountered by the member countries in implementing the MEAs and any major issues related to the cooperative implementation of the MEAs at the regional level. Section III looked into the identification of capacity building needs for enhanced and effective implementation of the five selected MEAs.

The national questionnaires were completed by national consultants of different professional background, including legal, scientific and administrative expertise among the ten COBSEA member countries. The consultants gathered information to complete the national questionnaire in close consultation with relevant government authorities and other organizations at the national level. All COBSEA member countries have submitted their completed national questionnaires.

In addition to the input of the COBSEA member countries, information was also sought by SCIES from publicly available sources, such as internet, published reports and articles. This information was used to fill any gaps within the national questionnaires and to obtain the most recent information regarding the development of the five MEAs.

Based on the information collected by the SCIES through the national questionnaires and other, publicly available, sources, the “Regional Review on the Status of Implementation of Marine/Coastal-related MEAs in the East Asian Seas Region” was drafted. Through the outcomes of this regional review, COBSEA will be in a better position to understand the implementation status of the five selected MEAs in the COBSEA member countries, and thereby to provide further assistance and solutions for the enhanced implementation of the MEAs’ commitments at national and regional level.

## **2. Overview of the five selected MEAs**

The term “Multilateral Environmental Agreement” (MEA) is a broad term that relates to any legally binding international instrument through which national governments commit to achieving specific environmental goals.<sup>2</sup> These agreements may take different forms, such as “convention,” “treaty”, “agreement”, or “protocol”. MEAs between two States are termed as “bilateral” and MEAs between three or more States are termed as “multilateral”. As a principle of international law, MEAs (as with other international agreements) usually bind States to obligations agreed in the MEA. MEAs may be stand-alone documents that include all the relevant requirements, or they can be “framework agreements” for which further agreements (protocols) are necessary to provide the needed standards, procedures, and other requirements to implement the MEA effectively. Some MEAs, such as the MARPOL 73/78, may include annexes.

MEAs can follow a variety of models which are generally referred to as “soft law” such as action plans (such as the GPA), codes of conduct, declarations and other non-binding documents that parties respect and “hard-law” which specifies legally-binding actions to achieve an environmental objective.

The convening of MEAs is considered as the main method available under international law for countries to work together on global environmental issues.<sup>3</sup> It is generally recognized that the effectiveness of international conventions depends upon the degree to which there is compliance and this in turn depends largely upon the extent to which they are enforced. For the purpose of better understanding the contents and roles in the protection of the marine environment, the five selected MEAs are briefly introduced below.

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<sup>2</sup> UNEP, Manual on Compliance with and Enforcement of Multilateral Environmental Agreements, June 2006, ISBN: 92-807-2703-6, Job Number, DEC/0817/NA. p51.

<sup>3</sup> See: <http://www.mfc.govt.nz/laws/meas/>.

## **2.1 International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)**

International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) was adopted in 1973 and amended as a protocol in 1978, commonly known as MARPOL 73/78. It is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

The 1973 convention set up the criteria for operational oil discharges from tankers under certain conditions such as the total quantity of oil and the distance from coasts. An oil record book is required to record the movement of cargo oil and its residues from loading to discharging on a tank-to-tank basis. A new and important feature of the 1973 convention was the concept of "special areas" which are considered to be so vulnerable to pollution by oil that oil discharges within them have been completely prohibited, with minor and well defined exceptions.

All oil-carrying ships are required to be capable of retaining oily wastes on board through the "load on top" system or for discharge to shore reception facilities. This involves the fitting of appropriate equipment, including an oil discharge monitoring and control system, oily water separating equipment and a filtering system, slop tanks, sludge tanks, piping and pumping arrangements. New oil tankers of 70,000 deadweight tons must be fitted with segregated ballast tanks large enough to provide adequate operating draught without the need to carry ballast water in cargo oil tanks. These tankers are also required to meet certain subdivision and damage stability requirements to survive after damage by collision or stranding.

The protocol of 1978 made a number of changes to Annex I of the parent convention. Segregated ballast tanks are required on all new tankers of 20,000 deadweight tons and above, and the segregated ballast tanks must be positioned in such a way in helping to protect the cargo tanks in the event of a collision or grounding. Crude oil washing was accepted as an alternative to segregated ballast tanks on existing tankers and is an additional requirement on new tankers. Regulations for improved stripping systems and stricter requirements for the survey and certification of ships were introduced. Drainage and discharge arrangements were also altered in the protocol of 1978.

The MARPOL 73/78 entered into force on 2 October 1983. Over decades, it has developed into a comprehensive set of regulations with six technical annexes in preventing and minimizing pollution from ships to the marine environment. State Parties must accept Annexes I and II, but the other annexes are voluntary. By 29 February 2008, 146 countries had ratified MARPOL 73/78 as well as its Annex I and II. MARPOL 73/78 Annex I dwells on the "Regulations for the Prevention of Pollution by Oil" and has been amended since it entered into force. The revised Annex I entered into force on 1 January 2007. It incorporates the various amendments adopted since MARPOL 73/78 entered into force in 1983, including the amended regulation 13G (regulation 20 in the revised annex) and regulation 13H (regulation 21 in the revised annex) on the phasing-in of double hull requirements for oil tankers. It also separates, in different chapters, the construction and equipment provisions from the operational requirements and makes clear the distinctions between the requirements for new ships and those for existing ships. The revision provides a more user-friendly and simplified Annex I. New requirements in the revised Annex I include construction requirements to provide adequate protection against oil pollution in the event of stranding or collision (regulation 22 on pump-room bottom protection and regulation 23 on accidental oil outflow performance).

Annex II details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk. Some 250 substances were evaluated and included in the list appended to the convention. The discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with. In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land. More stringent restrictions apply to the Baltic and Black Sea areas.

A revised MARPOL 73/78 Annex II entered into force on 1 January 2007, including a new four-category categorization system for noxious and liquid substances. The new categories are:

- Category X: Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a major hazard to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment;
- Category Y: Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a hazard to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment;
- Category Z: Noxious liquid substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a minor hazard to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment; and
- Other Substances: Substances which have been evaluated and found to fall outside Category X, Y or Z because they are considered to present no harm to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing these substances are not subject to any requirements of MARPOL 73/78 Annex II.

The revised Annex II also includes a number of other significant changes. Improvements in ship technology, such as efficient stripping techniques, has made significantly lower permitted discharge levels possible of certain products which have been incorporated into Annex II. For ships constructed on or after 1 January 2007 the maximum permitted residue in the tank and its associated piping left after discharge are now set at a maximum of 75 litres for products in categories X, Y and Z—compared with the previous limits which set a maximum of 100 or 300 litres, depending on the product category.

Annex III focuses on harmful substances carried in packaged forms and it entered into force on 1 July 1992. Since then, 128 countries have ratified it. Annex III is one of the four optional annexes of MARPOL 73/78 and has, for this reason, taken much longer to enter into force. Annex III contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances. The International Maritime Dangerous Goods (IMDG) Code has, since 1991, included marine pollutants.

Annex IV contains requirements to control pollution of the sea by sewage. Annex IV entered into force on 27 September 2003 and had been ratified by 118 countries. A revised Annex

entered into force on 1 August 2005. The revised Annex applies to new ships engaged in international voyages, of 400 gross tonnage and above or which are certified to carry more than 15 persons. Existing ships will be required to comply with the provisions of the revised Annex IV five years after the date of its entry into force. Annex IV requires ships to be equipped with either a sewage treatment plant, or a sewage disinfecting system or a sewage holding tank. The discharge of sewage into the sea will be prohibited, except when: the ship has an approved sewage treatment plant in operation; when the ship is discharging disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land; or when the ship is discharging sewage which is not disinfected at a distance of more than 12 nautical miles from the nearest land.

Annex V “Prevention of Pollution by Garbage from Ships” covers, in principle, all kinds of vessels, deals with different types of garbage and specifies the distances from land and the manner in which they may be disposed of. Annex V calls for the implementation of a large number of regulations onboard the ships (e.g. garbage record books, placards, etc.). The requirements are much stricter in a number of "special areas" but perhaps the most important feature of Annex V is the complete ban imposed on the dumping into the sea of all forms of plastic. Annex V achieved sufficient ratifications to enter into force on 31 December 1988. By 29 February 2008 it had been ratified by 134 countries.

Annex VI (protocol of 1997) “Regulations for the Prevention of Air Pollution from Ships” entered into force on 19 May 2005. On 29 February 2008, it had attracted 48 ratifications. The regulations in Annex VI set limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibit deliberate emissions of ozone depleting substances.

Annex VI includes a global cap of 4.5% m/m on the sulphur content of fuel oil and calls on the International Maritime Organization (IMO) to monitor the worldwide average sulphur content of fuel. Annex VI contains provisions allowing for special "SO<sub>x</sub> Emission Control Areas" to be established with more stringent control on sulphur emissions. In these areas, the sulphur content of fuel oil used on board ships must not exceed 1.5% m/m. Alternatively, ships must fit an exhaust gas cleaning system or use any other technological method to limit SO<sub>x</sub> emissions. The Baltic Sea is designated as a SO<sub>x</sub> Emission Control Area in the protocol.

Annex VI also prohibits deliberate emissions of ozone depleting substances, which include halons and chlorofluorocarbons (CFCs). New installations containing ozone-depleting substances are prohibited on all ships. But new installations containing hydrochlorofluorocarbons (HCFCs) are permitted until 1 January 2020. The requirements of the IMO Protocol are in accordance with the Montreal Protocol of 1987, as amended in London in 1990<sup>4</sup>.

Annex VI sets limits on emissions of nitrogen oxides (NO<sub>x</sub>) from diesel engines. A mandatory NO<sub>x</sub> Technical Code, developed by IMO, defines how this is to be done. Annex VI also prohibits the incineration on board ship of certain products, such as contaminated packaging materials and polychlorinated biphenyls (PCBs).

IMO has adopted “Guidelines for the Implementation of the MARPOL” and has also worked extensively on the issue of port reception facilities on the regulatory level. In addition, a number of recommendation, such as the need for waste management plans, have been adopted.

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<sup>4</sup> The Montreal Protocol is an international environmental treaty, drawn up under the auspices of the United Nations, under which nations agreed to cut CFC consumption and production in order to protect the ozone layer.

## **2.2 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention)**

The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, widely known as the London Convention, was adopted in 1972 in London by 80 countries, and entered into force on 30 August 1975. By 29 February 2008, it had been ratified by 78 countries.

The London Convention is one of the first global conventions to protect the marine environment from human activities. The objective of this convention is to protect and preserve the marine environment from all sources of pollution and take effective measures to prevent, reduce and, where practicable, eliminate pollution caused by dumping or incineration at sea of wastes or other matter. The current regime is based on a full prohibition of dumping, except for a limited number of wastes such as sewage sludge. It recognises that persistent plastics and other persistent synthetic materials interfere materially with fishing, navigation or other legitimate uses of the sea because they may float or may remain in suspension in the seas, and prohibits in principle dumping of plastics at sea.

The 1996 Protocol of the London Convention, adopted on 7 November 1996, entered into force on 24 March 2006, had 33 ratifications by 29 February 2008. The Protocol is intended to replace the 1972 Convention with its 29 articles and 3 annexes. It contains articles dealing with its objectives, general obligations of Parties, implementation procedures, dispute settlement, liability, and regional cooperation, etc.

The 1996 Protocol represents a major change of approach to the use of the sea as a depository for waste materials. One of the most important innovations of the protocol was the introduction of the “precautionary approach” (in Article 3). According to the precautionary approach, appropriate preventative measures are required to be taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects. The article also states that “the polluter should, in principle, bear the cost of pollution” and it emphasizes that contracting parties should ensure that the protocol should not simply result in pollution being transferred from one part of the environment to another.

The 1972 Convention permits dumping to be carried out provided certain conditions are met. The severity of these conditions varies according to the danger to the environment presented by the materials themselves and there is a “black list” containing materials that may not be dumped at all. The 1996 Protocol is much more restrictive. Article 4 states that Contracting Parties “shall prohibit the dumping of any wastes or other matter with the exception of those listed in Annex 1.” These are:

1. Dredged material;
2. Sewage sludge;
3. Fish waste, or material resulting from industrial fish processing operations;
4. Vessels and platforms or other man-made structures at sea;
5. Inert, inorganic geological material;
6. Organic material of natural origin; and
7. Bulky items primarily comprising iron, steel, concrete and similar non-harmful materials for which the concern is physical impact and limited to those circumstances, where such

wastes are generated at locations, such as small islands with isolated communities, having no practicable access to disposal options other than dumping.

The only exceptions to this are contained in Article 8 which permits dumping to be carried out “in cases of *force majeure* caused by stress of weather, or in any case which constitutes a danger to human life or a real threat to vessels...” Incineration of wastes at sea was permitted under the 1972 Convention, but was later prohibited under amendments adopted in 1993. It is specifically prohibited by Article 5 of the 1996 Protocol.

In recent years, concern has been expressed at the practice of exporting wastes that cannot be dumped at sea under the 1972 Convention to non-contracting parties. Article 6 of the 1996 Protocol requires parties not to allow the export of wastes or other matter to other countries for dumping or incineration at sea. Article 9 requires Parties to designate an appropriate authority or authorities to issue permits in accordance with the 1996 Protocol.

The 1996 Protocol recognizes the importance of implementation and Article 11 details compliance procedures under which, no later than two years after the entry into force of the Protocol, the Meeting of Contracting Parties "shall establish those procedures and mechanisms necessary to assess and promote compliance." A key provision is the so-called transitional period (Article 26), which allows new Contracting Parties to phase-in compliance with the convention over a period of five years. This provision is supported by extended technical assistance provisions.

Contracting Parties to the 1996 Protocol to the London Convention, at their first meeting held in London from 30 October to 3 November 2006, adopted amendments to the 1996 Protocol that regulate the sequestration of CO<sub>2</sub> streams from CO<sub>2</sub> capture processes in sub-seabed geological formations. According to the amendments, the storage of carbon dioxide (CO<sub>2</sub>) under the seabed will be allowed from 10 February 2007. Parties also agreed that guidance on the means by which sub-seabed geological sequestration of carbon dioxide can be conducted should be developed as soon as possible. This is to form an important part of the regulation of this activity. Arrangements have been made to ensure that this guidance will be considered for adoption at the 2<sup>nd</sup> Meeting of Contracting Parties in November 2007. A basis has been created in international environmental law to regulate carbon capture and storage (CCS) in sub-seabed geological formations, for permanent isolation, as part of a set of measures to tackle the challenge of climate change and ocean acidification, including, first and foremost, the need to further develop low carbon forms of energy. In practice, this option would apply to large point sources of CO<sub>2</sub> emissions, including power plants, steel and cement works. The amendments that entered into force 100 days after adoption on 10 February 2007 state that carbon dioxide streams may only be considered for dumping, if:

- Disposal is into a sub-seabed geological formation;
- They consist overwhelmingly of carbon dioxide (they may contain incidental associated substances derived from the source material and the capture and sequestration processes used); and
- No wastes or other matter are added for the purpose of disposing of them.

### **2.3 International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC)**

The International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) was adopted in November 1990 at a diplomatic conference convened by the IMO. It entered into force in May 1995 and by 29 February 2008, had been ratified by 91 countries.

As the name indicates, OPRC deals with preparing for and responding to oil pollution incidents from ships and from offshore oil exploration and production platforms, sea ports and oil handling facilities. The OPRC encourages the establishment of national and regional systems for responding to pollution incidents. These systems should include features such as a national contingency plan, the pre-positioning of oil spill combating equipment and exercises in dealing with spills. The OPRC recognises that, in the event of a pollution incident, prompt and effective action is essential, and it requires ships to carry detailed oil pollution emergency plans for pollution emergencies.

The OPRC also includes a framework for response systems. This, in turn, depends on the establishment of oil pollution emergency plans on ships and offshore installations and at ports and oil handling facilities, together with national and regional contingency plans as appropriate. Masters of ships, port authorities and others will be required to report pollution incidents without delay. The OPRC defines the actions to be taken when a report is received. If the incident is sufficiently serious, other states likely to be affected must be informed and details must also be provided to IMO.

A key feature of the OPRC is the requirement for international cooperation. The OPRC intends to encourage this process, and at the same time to establish a framework for international cooperation in responding to pollution emergencies which enables maximum resources to be mobilised as quickly as possible. Parties to the OPRC agree to cooperate and provide advisory services, technical support and equipment at the request of other Parties. The financing of the costs involved is dealt with in an annex to the Convention.

Recent years have seen the expanded scope of the OPRC from oil to hazardous and noxious substances. This was achieved through the “Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances” (OPRC-HNS Protocol), which was formally adopted on 15 March 2000<sup>5</sup> and entered into force on 14 June 2007. It has now been ratified by 20 countries.

The OPRC-HNS Protocol follows the principles of the 1990 OPRC and aims to provide a global framework for international co-operation in combating major incidents or threats of marine pollution. Parties to the HNS Protocol will be required to establish measures for dealing with pollution incidents, either nationally or in co-operation with other countries. Ships will be required to carry a shipboard pollution emergency plan to deal specifically with incidents involving HNS.

For the purposes of the HNS Protocol, a hazardous and noxious substance is defined as any substance other than oil which, if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea. The HNS Protocol will ensure that ships carrying hazardous and noxious liquid substances are covered by preparedness and response regimes similar to those already in existence for oil incidents. It should be noted that the definition of an HNS as defined by the OPRC-HNS Protocol 2000 differs widely from the

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<sup>5</sup> For more details, see <http://www.imo.org/>

definition of an HNS under the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, otherwise known as the HNS Convention. The HNS Convention was adopted by IMO in 1996. This convention, which has not yet entered into force, provides for a compensation and liability regime for incidents involving hazardous and noxious substances.

In order to respond to HNS spills, ships flying the flag of a Party to the OPRC-HNS Protocol are required to carry a pollution emergency plan from 14 June 2007 onwards to deal specifically with incidents involving hazardous and noxious substances, such as chemicals. The new requirement is one of a list of measures included in the OPRC-HNS Protocol.

States which are party to the OPRC-HNS Protocol are required to establish a national system for responding to HNS, including a designated national authority, a national operational contact point and a national contingency plan. This needs to be supported by a minimum level of response equipment, communications plans, regular training and exercises. States must also provide assistance, to the extent possible and feasible, to other States in the event of a pollution emergency. There is a provision for the reimbursement of any assistance provided. States should also try to conclude bilateral or multilateral agreements on preparedness for, and response to, pollution incidents involving HNS.

IMO has developed a wide array of tools including model training courses, manuals and guidance documents to assist countries in developing their capacity for dealing with incidents involving HNS and meeting their obligations under the Protocol. States may also request assistance from IMO, through its Integrated Technical Co-operation Programme, in meeting these obligations and in implementing the provisions of the Protocol.

The OPRC-HNS Protocol currently has 19 Parties. States that accede to the Protocol derive a number of benefits such as:

- Access to an international platform for co-operation and mutual assistance in preparing for, and responding to, major HNS pollution incidents and a mechanism for establishing co-operative arrangements with other States Parties;
- A means for urgently accessing relevant technical assistance and response resources in the event of an HNS incident;
- A framework for the development of national and regional capacity to prepare for, and respond to, HNS incidents;
- Participation in a network for the exchange of new research and development information, best practices and practical experiences in HNS response; and
- Access to training and support for developing the essential preparedness and response structures and legislation, at national and regional levels, through IMO's Integrated Technical Co-operation Programme.

Such benefits contribute to the enhanced protection of a State's coastal zone and marine environment, including human health and resources.

## **2.4 International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM)**

The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM) was adopted in February 2004 by the MEPC of IMO. It addresses the problems of harmful aquatic organisms in ballast water and invasive species due to the

expanded trade and traffic volume over the last few decades. The effects of this problem in many areas of the world have been devastating along with the volume increase of seaborne trade. It is estimated that about 10 billion tonnes of ballast water are transferred globally each year, potentially transferring from one location to another species of sea life that may prove ecologically harmful when released into a non-native environment.<sup>6</sup>

With 22 articles and an annex, the Convention lays down technical standards and requirements for the control and management of ships' ballast water and sediments. Parties are required to give full and complete effect to its provisions and the annex in order to prevent, minimize and ultimately eliminate the transfer of harmful aquatic organisms and pathogens. Parties are given the right to take more stringent measures with respect to the prevention, reduction or elimination of the transfer of harmful aquatic organisms and pathogens. The convention sets out provisions on facilities for the reception of sediments, on scientific and technical research and monitoring, on survey certification and inspection, and on technical assistance and cooperation. The annex form an integral part of the convention, which set forth rules on management and control requirements for ships, standards for ballast water management, and survey and certification requirements for ballast water management. Once ratified and enforced, the convention will require all ships to implement a Ballast Water Management Plan, which will demand that new vessels be fitted with equipment for treating ballast water after 2009 and that all ships be fitted from 2016.

The BWM has a two-tier approach. Tier 1 includes requirements that apply to all ships, including mandatory requirements for a Ballast Water and Sediments Management Plan, a Ballast Water Record Book and a requirement that new ships shall carry out ballast water and sediment management procedures to a given standard or range of standards. Existing ships would be required to carry out ballast water management procedures after a phase-in period, but these procedures may differ from those to be applied to new ships.

Tier 2 gives Parties the option to take additional measures before ships would be allowed to enter their ports. Such additional measures are subject to criteria set in the draft convention and to IMO guidelines yet to be developed, and may also include additional controls applicable to discharge and/or uptake areas of ballast water.<sup>7</sup>

The IMO oversees the development of the convention, and assists Parties in implementation. The IMO receives reports from Parties and convenes a Conference of the Parties to consider amendments to the Convention if requested by Parties. According to Article 18 of the Convention, the BWM will enter into force 12 months after ratification by 30 States, representing 35 per cent of world merchant shipping tonnage. On 29 February 2008 BWM had 12 ratifications, which is less than half of the number required to bring it into force.

## **2.5 Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA)**

It is generally recognised that some 80 per cent of marine pollution originates from land-based human activities.<sup>8</sup> This includes municipal, industrial and agricultural wastes and run-

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<sup>6</sup> In order to help developing countries understand the problem and monitor the situation, IMO has been implementing the GEF/UNDP/IMO Global Ballast Water Management Programme (GloBallast) and has provided technical support and expertise. See <http://globallast.imo.org/index.asp>.

<sup>7</sup> The text for Tier 2 remains to be developed. For updated details, see Marine Environment Protection Committee (MEPC) <http://www.imo.org/>, also Global Ballast Water Management Programme: <http://globallast.imo.org/>.

<sup>8</sup> Source: <http://www.gpa.unep.org/>.

off, and atmospheric deposition. These contaminants affect the most productive areas of the marine environment, including estuaries and near-shore coastal waters. The marine environment is also threatened by physical alterations of the coastal zone, including destruction of habitats of vital importance to maintain ecosystem health.

Land-based pollution constitutes major threats to the health, productivity and biodiversity of the marine environment. Along with mounting concerns over the deteriorated marine environment, 108 governments and the European Commission declared their commitment to protect and preserve the marine environment from the adverse environmental impacts of land-based activities at the Washington Conference in 1995. The Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) and the Washington Declaration were adopted at this conference in order to prevent degradation of the marine environment from land-based activities by facilitating the realisation of obligations of States to protect the marine environment.

The GPA is designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities for devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities. The GPA aims at preventing the degradation of the marine environment from land-based activities by facilitating the duty of States to preserve and protect the marine environment. More specifically, it is recommended that States undertake the following activities:

- Identify and assess problems related to the nature and severity of problems they are facing, sources of degradation and the affected or vulnerable areas of concern;
- Establish priorities for action by assessing the relevant factors;
- Set management objectives for priority problems for source categories and areas affected on the basis of established priorities;
- Identify, evaluate and select strategies and measures to achieve these objectives; and
- Develop criteria for evaluating the effectiveness of strategies and measures.

The implementation of the GPA is primarily the task of governments, in close partnership with all stakeholders including local communities, public organizations, non-governmental organizations and the private sector. Formulation of national and regional programmes of action is a necessity for successful implementation. UNEP, as the secretariat of the GPA, and its partners will facilitate and assist governments in their tasks. Instrumental in this implementation process are the UNEP and other regional seas programmes and the GPA information and data clearing-house.

The comprehensive, multi-sectoral approach of the GPA also reflects the desire of governments to strengthen the collaboration and coordination of all agencies with mandates relevant to the impact of land-based activities on the marine environment, through their participation in a global programme. The governments have committed to cooperate on a regional basis to coordinate the GPA implementation efforts. Development of national and regional programmes of action is of primary importance.

UNEP was tasked to lead the coordination effort and to establish a GPA Coordination Office. The UNEP Regional Seas Programme and other regional organizations are providing an integrated framework for national action programmes. In this context and within the framework of the UNEP Regional Seas Programme, seven technical workshops of government-designated experts were convened by UNEP, during the period 1996–1998, to

identify regional priorities and to develop regional programmes of action. Sewage was identified as the major land-based source of pollution affecting human and ecosystem health.

As a priority, the governments recommended the establishment of an information and data clearing-house as a means to mobilize experience and expertise, including facilitation of effective scientific, technical and financial cooperation, and capacity-building. The clearing-house is intended to provide a rapid and direct referral system to relevant information and data so as to provide appropriate advice and assistance.

The GPA Coordination Office is primarily funded through the regular budget of UNEP (Environment Fund) and a Technical Co-operation Trust Fund financed by various governments including the Netherlands, Norway, Finland, Belgium, United States of America, and the United Kingdom. A General Trust Fund in support of the implementation of the GPA was established and is open to financial contributions for activities to be undertaken by the GPA Coordination Office. Projects for GPA implementation by governments are financed by sources such as the Global Environment Facility (GEF).

The Intergovernmental Review Meeting (IGR) is a forum where governments and other stakeholders meet to review the status of the implementation of the GPA and decide on action to be taken to strengthen the implementation of the GPA.<sup>9</sup> Two IGR meetings have been held so far.

The first IGR meeting (IGR-1) of the GPA was held in Montreal, Canada from 26–30 November 2001 in order to review the implementation of the GPA since its adoption in 1995, and to chart the way forward. The meeting focused substantively on the issues of municipal wastewater, integrated coastal and oceans governance, building partnerships and financing the implementation of the GPA. The meeting noted steady, albeit slow, progress in the implementation of the GPA at global, regional and national levels.<sup>10</sup>

The second IGR meeting (IGR-2) was held in Beijing, China, from 16–20 October 2006 in order to strengthen the implementation of the GPA at national, regional and global levels; contribute to the achievement of specific targets of the Johannesburg Plan of Implementation<sup>11</sup> as they relate to the GPA including the integrated water resources management target, the 2015 sanitation targets and an ecosystem-based management approach.

### **3. National MEA implementation**

The East Asian Seas region faces a great challenge from marine pollution, due in part to the massive industrial and urban development in the coastal zones of the region, combined with a rapid growth in shipping activity. Many COBSEA member countries participate in MEAs in an effort to search for effective marine pollution prevention and control measures. This section will present an overview of the national implementation of the five selected MEAs with regard to membership status, national legislation, how policy relates to the compliance and enforcement of each of the five MEAs, institutional arrangements, stakeholder involvement, employment of economic instruments and the participation in related IMO, Conference of the Parties (COP) or Inter-Governmental Review (IGR) meetings.

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<sup>9</sup> <http://www.gpa.unep.org/content.html?id=303&ln=6>

<sup>10</sup> For detailed information on the GPA-IGR1 meeting, see Summary Report of the IGR on Implementation of the GPA, online coverage at: <http://www.iisd.ca/linkages/sd/gpa>.

<sup>11</sup> The Johannesburg Plan of Implementation was adopted at the World Summit for Sustainable Development, 26 August–4 September 2002, Johannesburg, South Africa

### 3.1 Membership status

Among the four conventions, the London Convention is the oldest, adopted in 1972 and entered into force in 1975. The 1996 Protocol of the London Convention was adopted in 1996 and entered into force in 2006. Globally, the London Convention currently has only 87 parties while the Protocol has 33 parties. MARPOL 73/78 only entered into force in 1983, five years after the adoption of its Protocol in 1978. Nevertheless, with its 146 parties, MARPOL 73/78 currently has the highest global participation among the four conventions. OPRC was adopted in 1990 and entered into force in 1995. Globally, OPRC currently has 94 parties, and the OPRC-HNS Protocol, adopted in 2000 and entered into force in 2007, currently has 20 parties. BWM was only recently adopted and is the only convention that has not yet entered into force. The GPA is not a convention, but was adopted in 1995 and counts 108 countries globally as participating in its implementation.

#### 3.1.1 MARPOL 73/78

Of the four conventions looked at in this review, MARPOL 73/78 is the most important among the COBSEA countries. All the COBSEA member countries have ratified MARPOL 73/78 and its Annex I and II. Four countries, Australia, China, Republic of Korea and Singapore, have ratified all six annexes. Thailand was the last country to become a party to MARPOL 73/78 and its Annex I and II, which it acceded on 2 November 2007.

**Table 1: Membership status and date of ratification/accession to MARPOL 73/78**

Countries	Annex I	Annex II	Annex III	Annex IV	Annex V	Annex VI
Australia	Oct. 1987	Oct. 1987	Oct. 1994	Feb. 2004	Aug. 1990	Aug. 2007
Cambodia	Nov. 1994	Nov. 1994	Nov. 1994	Nov. 1994	Nov. 1994	X
People's Republic of China	Jul. 1983	Jul. 1983	Sept. 1994		Nov. 1988	May 2006
Indonesia	Oct. 1986	Oct. 1986	X	X	X	X
Republic of Korea	Jul. 1984	Jul. 1984	Feb. 1996	Nov. 2003	Feb. 1996	Apr. 2006
Malaysia	Jan. 1997	Jan. 1997	X	X	Jan. 1997	X
Philippines	June 2001	June 2001	June 2001	June 2001	June 2001	X
Singapore	Nov. 1990	Nov. 1990	Mar. 1994	May 2005	May 1999	Aug. 2000
Thailand	Nov. 2007	Nov. 2007	X	X	X	X
Viet Nam	May 1991	May 1991	X	X	X	X

Date = Date of ratification or accession, X = Not ratified/acceded, Blank = unknown

#### 3.1.2 London Convention and the 1996 Protocol

The London Convention is the oldest convention among the five MEAs. The Convention was adopted in 1972 and entered into force in 1975. However, only four of the COBSEA

countries are currently parties to the Convention. Nevertheless, all the COBSEA member countries, whether parties to the London Convention or not, report to have taken measures to strengthen the supervision and management of dumping of waste into the marine environment at a national level.

Of the four countries that are party to the London Convention, only Australia and China ratified the 1996 Protocol. Four countries have expressed their intention to become parties to the London Convention. Singapore is currently in the process of acceding to the London Convention while Indonesia's and Viet Nam's efforts to become parties are still in the initial stage. Cambodia and Thailand have not yet expressed their intention to become parties to the Convention.

In Singapore, a committee headed by the Maritime and Port Authority of Singapore (MPA) has been studying the 1996 Protocol to the London Convention since 2003. The decision on whether to recommend accession will not be taken until all relevant agencies that have been consulted have agreed with Singapore becoming a party. A decision is expected in 2008.

**Table 2: Membership status and date of ratification/accession to London Convention and the 1996 Protocol**

<b>Countries</b>	<b>London Convention</b>	<b>1996 Protocol</b>
Australia	August 1985	December 2000
Cambodia	X	X
People's Republic of China	November 1985	September 2006
Indonesia	X	X
Republic of Korea	December 1993	X
Malaysia	X	X
Philippines	August 1973	X
Singapore	X	X
Thailand	X	X
Viet Nam	X	X

**Date = Date of ratification or accession, X = Not ratified/acceded, Blank = unknown**

### **3.1.3 OPRC and the OPRC-HNS Protocol**

At present, seven of the COBSEA member countries are parties to OPRC. Only Australia and Singapore are currently parties to the HNS Protocol.<sup>12</sup>

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<sup>12</sup> <http://www.aph.gov.au/house/committee/jsct/mayjune2003/treaties/oprcnia.pdf>

**Table 3: Membership status and date of ratification/accession to OPRC and the OPRC-HNS Protocol**

<b>Countries</b>	<b>OPRC</b>	<b>OPRC-HNS Protocol</b>
Australia	July 1992	March 2005
Cambodia	X	X
People's Republic of China	March 1998	X
Indonesia	X	X
Republic of Korea	November 1999	X
Malaysia	July 1997	X
Philippines	Ratified (no date)	X
Singapore	March 1999	October 2003
Thailand	April 2000	X
Viet Nam	X	X

**Date = Date of ratification or accession, X = Not ratified/acceded**

### **3.1.4 BWM**

The BWM is not yet in force. However, most of the COBSEA member countries have expressed their interest in becoming parties to the BWM and several countries have already started preparing for the national implementation of this Convention.

Australia signed the BWM in May 2005, and is in the process of ratifying it. China intends to become a party to the BWM. Chinese and Singaporean experts were actively involved in the drafting of this Convention. China is actively examining the Convention for early accession as soon as the IMO completes the guidelines necessary for its implementation. Singapore has issued a number of shipping circulars and has been briefing the shipping community to prepare for implementation of the Convention in future. As the guidelines needed under the Convention are expected to be finalized by IMO Bulk Liquids and Gases Sub-Committee and the Marine Environment Protection Committee (MEPC) by 2010, and viable cost-effective ballast water treatment technology is expected to be available by 2010/2011, the MPA will review Singapore's possible acceptance of the Convention in 2011 and recommend to the Government accordingly. The Republic of Korea reports that it intends to become a party to BWM and that it is expected to accomplish the preparatory tasks by 2009. The Thai Government is in the process of preparing facilities and regulations for joining the BWM. Indonesia and Malaysia are also considering ratifying BWM, but the preparatory work is so far at a very preliminary level. Only Cambodia and Viet Nam do not report any intention to ratify the BWM at this stage. No information is available regarding the intentions of the Philippines with regard to the BWM.

### **3.1.5 GPA**

Along with 108 countries, Australia, Cambodia, China, Indonesia, Republic of Korea, Malaysia, Philippines and Thailand participated in the adoption of the GPA at the Washington Conference in 1995. Since then, pollution from land-based sources has attracted great attention from the COBSEA member countries. China has actively participated in the GPA since 1995, and hosted the IGR-2 for the GPA in October 2006. All the COBSEA member countries, apart from Singapore, attended the IGR-2.

Although the GPA is not a binding agreement, many COBSEA countries have adopted relevant environmental laws and regulations to control land-based pollution. Four countries: Australia, China, Republic of Korea and Philippines, developed National Programmes of Action (NPAs). In China, the NPA was developed by the State Environment Protection Administration (SEPA), but is yet to be approved for implementation.

### **3.2 National programmes and other initiatives**

From a regional perspective, the main area of cooperation concerns oil spills. Various cooperative schemes have been established in Southeast Asia based on the OPRC framework.<sup>13</sup> The reason for this is probably that the East Asian Seas region contains some of the busiest waterways in the world and, as a result, the region is highly vulnerable to oil spills. Therefore many initiatives have been undertaken during the past decades by the littoral states to implement preventive measures against the threat of marine pollution from maritime activities.

One of the significant initiatives taken in the early 1970s was the formation of the Tripartite Technical Experts Group (TTEG) on the Safety of Navigation in the Malacca and Singapore Straits by the littoral states Indonesia, Malaysia and Singapore. The TTEG, which comprises technical officials from the three littoral States is aimed at enhancing safety of navigation in the Straits. TTEG deals with routing of ships, hydrographic surveys of the Straits, aids to navigation, production of up-to-date navigational charts and verification of wrecks and shoals and their removal or marking, as necessary. The three countries take turns in hosting the meetings. Through such close cooperation, the TTEG has made considerable achievements over the years. One of the significant achievements was the adoption, in 1977 by the IMO, of a vessel routing system in the Straits of Malacca and Singapore proposed by the TTEG to enhance safety of navigation in the Straits. To date, measures introduced by the three littoral states have been effective in ensuring that the two straits remain safe and open to international shipping and to minimize oil pollution arising from maritime incidents.

The Malacca Straits Council (MSC) is another important body in terms of navigational safety matters in the two above-mentioned straits. In 1981, a revolving fund was established with a 400 million yen (approx. US \$3.8 million) donation from the MSC. The fund allows any of the three littoral states to take an advance for use in combating an oil spill from a ship in the straits and when compensation is received, the amount is paid back into the fund. A Revolving Fund Committee, which is made up of one representative from each littoral state, controls the fund. The littoral states take turns to manage the fund, each for five years. The

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<sup>13</sup> The Straits of Malacca and Singapore form an international shipping route linking the Indian Ocean, via the Andaman Sea, with the South China Sea to the Pacific Ocean. It is a major shipping route for petroleum tankers and very large crude carriers (VLCC). About 3.23 million barrels of crude oil are shipped daily via the Straits to the East Asian region.

Revolving Fund Committee also conducts joint exercises to improve co-ordination and preparedness among the three countries to combat oil pollution.

In 1993, the six ASEAN countries Brunei Darussalam, Indonesia, Malaysia, the Philippines, Thailand and Singapore established the ASEAN Oil Spill Response Action Plan or ASEAN-OSRAP. The objective of the plan is to enhance the ability of a country to respond to oil spills, which exceed the response capability of the individual country. It provides a cooperative plan for mutual assistance from member states for oil spill response. The area of responsibility for the ASEAN-OSRAP includes all waters within the Exclusive Economic Zone (EEZ) of the ASEAN countries and the territorial waters surrounding Singapore.

A Japanese-sponsored project was set up in 1994 on Oil Spill Preparedness and Response (OSPAR) in the ASEAN sea area. The OSPAR aims to promote cooperation between Japan and the ASEAN countries to combat oil spills in the region. Under the OSPAR Project, Japan donated to the ASEAN countries a sum of 1 billion Yen (approx US\$9.4 million) to purchase oil spill equipment to reinforce national stockpiles in the region. The OSPAR project has contributed to the development of an ASEAN Oil Spill Information Network System and enhancement of equipment stockpile bases in Muara (Brunei Darussalam), Balikpapan (Indonesia), Port Klang, Johor, Penang and Labuan (Malaysia), Manila, Cebu and Davao (Philippines), Thailand and Singapore.

At the national level, various national programmes and projects have been carried out among the COBSEA member countries for the implementation of the five MEAs looked upon in this review.

### **3.2.1 Australia**

Following the strict procedures and timetable to get ready for international treaty obligations, Australia has comprehensive procedures at national level to assess its preparedness to become party to an MEA and implement its obligations. All treaties have to be tabled in the Parliament at least 15 sitting days prior to binding treaty action being taken and with a National Interest Analysis (NIA).<sup>14</sup> The NIA notes the reasons for Australia to become a party to the treaty including a discussion on the foreseeable economic, environmental, social and cultural effects of the treaty action; the obligations imposed by the treaty; its direct financial costs to Australia; how the treaty will be implemented domestically; what consultation has occurred in relation to the treaty action; and whether the treaty provides for withdrawal or denunciation. All tabled treaties and NIA are referred to the Joint Standing Committee on Treaties (JSCOT). JSCOT conducts meetings, forums and seminars and invites both government and public submissions on any issues relating to the implementation of a treaty by Australia.<sup>15</sup>

Australia has extensive stakeholder involvement in the decision-making process prior to becoming a party to an MEA as well as during the implementation process. In Australia, the NIA identifies the relevant stakeholders and ensures adequate steps are taken to consult extensively with these stakeholders to make sure they all take part in decision-making. The JSCOT consults further by setting up public hearings, meetings and seminars with government and non-government departments involved in the areas of interest, including marine industries and conservation groups, the public and research institutions such as

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<sup>14</sup> Tabled NIAs are included in the treaties library at [www.austlii.edu.au/dfat](http://www.austlii.edu.au/dfat).

<sup>15</sup> <http://www.aph.gov.au/house/committee/jsct/index.htm>

Commonwealth Scientific Industrial Research Organisation, Geosciences Australia, and universities.

As a party to a specific MEA, Australia develops implementation plans consistent with agreement obligations. This includes setting benchmarks that are consistent with the MEA and also facilitating the monitoring of compliance. In Australia, many international treaties need State and Territory co-operation for their domestic implementation and, accordingly, discussions with State and Territory governments occur at many levels ranging from that of experts to standing ministerial committees. The peak consultative body is the Treaties Council consisting of the Prime Minister, the State Premiers and the Chief Ministers.

Australia has adopted national legislation and other instruments to implement the relevant MEAs. Australia regularly reviews the adequacy of existing laws, regulations and policies in terms of fulfillment of their environmental objectives in the context of the national situation as well as relevant international obligations. In case any amendment is needed to an existing legislation, or if it is necessary to draft new legislation, approval is required to ensure Australia is able to fulfill an international obligation of the treaty. A committee has been established at federal level to assess the country's capability, readiness to ratify, need and ability to comply with MEAs.

When it comes to the implementation of the various MEAs, a lead agency is designated at national level. Australia always attends IMO meetings that pertain to the MEAs that it has signed. The Australian Maritime Safety Authority (AMSA) is Australia's representative on the IMO and attends MARPOL 73/78 and OPRC meetings. The Department of Environment and Water Resources (DEWR) now the Department of the Environment, Water, Heritage and the Arts attends meetings regarding the London Convention. The Australian Quarantine and Inspection Service (AQIS) attends meetings related to BWM. DEWR also acts as the lead agency for the GPA. In addition, various agencies at federal and state levels share the responsibilities for marine pollution prevention and, in order to provide policy guidance, coordination and financial and technical support, various types of committees are set up for each of the MEAs.

Australia's Ocean Policy was developed under the Coasts and Clean Seas Initiative. It has served as national policy enabling the implementation of several MEAs. The Ocean Policy integrates obligations under MEAs and covers the implementation of state and Commonwealth legislation, policies and guidelines. It addresses the planning, management and ecologically sustainable use of fisheries, shipping, petroleum, gas, and sea bed resources within Australia's oceans. The Ocean Policy also addresses the continued conservation and protection of marine biodiversity and includes a surveillance strategy for the remote areas of Australia's Exclusive Economic Zone (EEZ). The previous Prime Minister launched a consultation process for the Oceans Policy, which will enable a broad cross section of ocean interest and user groups, including industry, conservation, scientific and community groups, to participate in the development of the policy.

#### *MARPOL 73/78*

Australia has a number of laws and regulations to implement MARPOL 73/78 at both Commonwealth and State levels.<sup>16</sup>

AMSA acts as the lead agency for issues regarding the implementation of administrative arrangements and for making appropriate subordinate legislation for MARPOL 73/78. At state level, state and territory transport agencies are responsible for ensuring the passing of legislation in support of MARPOL 73/78. The National Plan Management Committee

(NPMC) is setting broad policy directions and oversees the effectiveness and efficiency of the implementation of the MARPOL 73/78 national plan. This includes the planning of response standards for both oil and chemicals; oversight of the ongoing effectiveness of the formal arrangements among key stakeholders; and provision of advice to the Australian Transport Council on the collection and distribution of funds for the national plan. The NPMC has an independent chair and comprises representatives from the Commonwealth, State/Northern Territory Statutory Agencies, NGOs and the private sector.

Australia has undertaken several programmes and projects to emphasise the MARPOL 73/78. One such programme includes the formation of the Australian Marine Environment Protection Association (AUSMEPA) under AMSA in November 1999. The formation of AUSMEPA is a partnership of concerned government and maritime industry representatives all seeking to increase awareness for the protection of the marine environment. The AUSMEPA mandate is to, through education, encourage, develop and oversee the voluntary participation of Australians in protecting Australia's precious marine environment specifically, and the environment generally from all sources of pollution and degradation. AUSMEPA has also commenced a Ship Membership Scheme. This scheme rewards quality shipping that has demonstrated a good safety record and meets the association's safety and environmental criteria. To date, there are 14 ships flying the AUSMEPA flag when in an Australian port.

#### *London Convention and the 1996 Protocol*

The Commonwealth Environmental Protection (Sea Dumping) Act 1981 is the basic law for the implementation of the London Convention. The Sea Dumping Act provides the basis for permitting the on-going management of such actions.<sup>16</sup> Australia also implements Article 210 of the United Nations Convention on the Law of the Sea (UNCLOS), which relates to the dumping of wastes at sea. After having ratified the London Convention in December 2000, DEWR adopted the National Ocean Disposal Guidelines for Dredged Material in 2002.<sup>17</sup> In addition, Australia implements the 1996 Protocol to the London Convention by regulating the dumping of wastes and other matter into the sea.

DEWR is the lead agency for the implementation of the London Convention. At state/local level, the Great Barrier Reef Marine Park Authority is responsible for the protection of the Great Barrier Reef, and state departments are responsible for the protection of state waters from dumping. The Technical Advisory and Consultative Committee (TACC) assists the relevant authorities and the proponents in protecting the environment and reconciling various stakeholder interests. The Membership of TACC is drawn from relevant Commonwealth, state and local governments and NGOs.

#### *OPRC and OPRC-HNS Protocol*

Australia has implemented many of the provisions of the OPRC through the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances.<sup>18</sup> This national plan provides an integrated national system for responding promptly and effectively

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<sup>16</sup> DEWR. 2002. National Ocean Disposal Guidelines for Dredged Material, Commonwealth of Australia, Canberra, May 2002. 165 pp. [www.ea.gov.au/coasts/pollution/dumping](http://www.ea.gov.au/coasts/pollution/dumping).

<sup>17</sup> DEWR. 2002. National Ocean Disposal Guidelines for Dredged Material, Commonwealth of Australia, Canberra, 2002. 154 pp.

<sup>18</sup> The National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances administered by The Australian Maritime Safety Authority (AMSA). <http://www.aph.gov.au/house/committee/jsct/mayjune2003/treaties/oprcnia.pdf>.

to marine oil pollution incidents and is supported by a levy imposed on commercial shipping using Australian ports. As part of the national plan, Australia has developed a National Marine Chemical Spill Contingency Plan (Chemplan) to implement the key obligation of the HNS Protocol to establish a national system for preparedness and response to HNS incidents.<sup>19</sup>

AMSA acts as the lead agency for the implementation of OPRC. The NPMC provides strategic management with regard to the implementation of the OPRC while the National Plan Operations Group (NPOG) handles operational functions.

### *BWM*

Australia is preparing for its ratification of the BWM. Since July 2001, the Australian Government has had in place several requirements for the management of internationally sourced ballast water that apply for all ships arriving from overseas. These requirements are implemented through the Quarantine Act 1908 and administered by the Seaports Programme within the AQIS. Australia has also developed the National Ballast Water Management Guidelines and applied mandatory water management requirements for international voyages to Australia, since 2001.<sup>20</sup> A National System for the Prevention and Management of Marine Pest Incursion was implemented in October 2006.

The AQIS under the Department of Agriculture, Fisheries and Forestry has a leading role regarding introduced species and ballast water. There is also a National Taskforce on the Prevention and Management of Marine Pest Incursions, a High Level Officials Working Group and a National Introduced Marine Pests Coordination Group (NIMPCG). These are all bodies responsible for issues related to the BWM. The membership includes State and Northern Territory government agencies, marine industries, researchers and conservation groups.

There are also several other government agencies responsible for the prevention of ballast water pollution. The Department of Foreign Affairs and Trade plays an important role with regard to shipping legislation related to the Convention. The Attorney General's Department, the Royal Australian Navy and the Defence Science and Technology Organisation all share responsibilities in terms of interdiction of ballast water. The Department of Industry, Tourism and Resources is responsible for trade related pollution. The Department of Immigration and Multicultural and Indigenous Affairs, Australian Fisheries Management Authority, Maritime Safety Authority and the State and Territory transport agencies are responsible for issues related to the pollution from immigration, fisheries, aquarium trade and shipping respectively.

### *GPA*

Although the GPA is not a convention, there is legislation attached to it in Australia and this legislation is reviewed frequently. Currently, the GPA is under review, assessing and stocktaking on performance.

DEWR is the lead agency for the implementation of the GPA. At state/local level, the Great Barrier Reef Marine Park Authority is responsible for the protection of the Great Barrier Reef, and state departments are responsible for the protection of state waters from land-based

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<sup>19</sup> National Marine Chemical Spill Contingency Plan (Chemplan).

[http://www.amsa.gov.au/Marine\\_Environment\\_Protection/National\\_Plan/](http://www.amsa.gov.au/Marine_Environment_Protection/National_Plan/)

<sup>20</sup> DAFF. 2005. Joint press release Department of Agriculture Fisheries and Forestry and Department of the Environment and Water Resources. Australia a Step Closer to a National Approach to Tackling Introduced Marine Pests. 15 April 2005. Pp. 6. <http://www.DEWR.gov.au/minister/env/2005/mr15apr305.html>.

activities. In addition, the Natural Resource Management Ministerial Council (NRMMC), which comprises of Australian state and territory government ministers with responsibilities for land and water management, plays an important role.

The Australian Government is demonstrating its commitment to improving the management of Australia's water resources through the development of the National Water Initiative (NWI). The NWI provides a blueprint for reform of Australia's water management for the next decade and beyond. The NWI was considered at the Council of Australian Governments meeting in June 2004. The Commonwealth Government and the governments of New South Wales, Victoria, Queensland, South Australia, the Northern Territory, the Australian Capital Territory and Tasmania signed the agreement in June 2005. Western Australia signed on 10 February 2006.

NRMMC developed the Framework for a National Cooperative Approach to Integrated Coastal Zone Management (ICZM), which addresses ecologically sustainable use and development issues affecting the coastal zone that benefit from a national approach. An Implementation Plan for the framework was jointly developed by all participating jurisdictions and was endorsed through the NRMMC in April 2006. Sound progress is being made in implementation through cooperative efforts between all jurisdictions.

In October 2006, Australia developed a National Programme of Action (NPA) for the Protection of the Marine Environment from Land-based Activities. Australia's NPA builds on the concepts outlined in the GPA, the outcomes of the Australian hosted conference "Global H2O: Hilltops-2-Oceans Partnership", held in Cairns, May 2004; and the 2006 Framework and Implementation Plan for a National Cooperative Approach to Integrated Coastal Zone Management.<sup>21</sup>

In Australia, both federal and state governments play an important role in promoting understanding on issues related to land-based pollution. To increase public awareness, AMSA has produced educational material and oil spill information and pollution fact sheets for children and teachers. State governments also have awareness campaigns for GPA related issues. AUSMEPA with assistance from AMSA have produced a DVD entitled "Welcome to Australia – Protecting our Marine Environment". The purpose of the DVD is to inform seafarers visiting Australian waters of their roles and responsibilities to ensure the protection of Australia's unique marine environment. "Clean up Australia" and "Keep Australia Beautiful" are among the nationally active NGOs that promote public awareness. Local councils also have their programmes.

#### *Funding and economic instruments*

Australia has employed economic instruments such as user fees, pollution fees, subsidies, tax incentives and other measures to facilitate effective implementation of the MEAs. Importantly, Australia has also adopted legislation that provides avenues for obtaining funds to control various sources of pollution and setting up penalties for the violation of relevant laws.

Adding more weight to the employment of economic instruments, Australia enforces penalties for the implementation of MEAs. The violation of different MEAs may cause different degrees of penalty. For MARPOL 73/78, penalties in the form of fines of up to

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<sup>21</sup> DEWR. 2006. Australia's National Programme of Action for the Protection of the Marine Environment from Land-based Activities. Natural Resource Management Ministerial Council, Department of the Environment and Water Resources, Canberra, ACT. Pp. 61

AUS\$220,000 can be imposed for deliberate discharges. In addition, the implementation of the MARPOL 73/78 national plan and the responsibility to fund related environmental protection falls under AMSA. In 2006, AMSA provided a budget of about AUS\$4.6 million in 2006.

When it comes to the London Convention, Australian legislation provides avenues for obtaining funds to restore the environment from the fees obtained for dumping activities. Permits to dump waste cost AUS\$5,500, AUS\$11,000 or AUS\$16,500 depending upon the length of the permit required, the nature of the dumped material and the sensitivity of the adjacent marine environment. Dumping without a permit incurs a penalty including imprisonment for up to 10 years and/or fines up to AUS\$220,000.

To support the implementation of the OPRC National Plan to Combat Pollution of the Sea by Oil, a levy is imposed on commercial shipping using Australian ports. This way, AMSA was able to provide around AUS\$3.5 million in 1996-1997, from shipping levies to work with state governments and shipping, oil and exploration industries, to implement the national plan.

For BWB, Australia practiced economic measures before relevant legislation was adopted. Since 1991, a levy has been extracted from all ships entering Australian waters. In July 2001, legislation was enacted to require ships to pay AUS\$800 to enter Australian ports, of which AUS\$80 is for ballast water record inspection.

Australia does not have any direct funding to support the implementation of the GPA. To Australia, the GPA is not the driver for pollution control from land-based activities, but many of the activities conducted fall into the GPA implementation goals. Australia makes sure that sufficient funding is allocated to the control of land-based pollution. This includes Federal Government Funding through the National Heritage 2002–2008 of AUS\$3 billion; the Coastal Catchment Initiative of AUS\$34 million; the Reef Water Quality Protection Plan of AUS\$8 million; the Queensland Wetlands Protection Plan of AUS\$15 million; the Commonwealth Environmental Research Facility (CERF) of AUS\$100 million; and support to the Commonwealth Scientific and Industrial Research Organization (CSIRO) of AUS\$20 million.

### **3.2.2 Cambodia**

To implement MEAs, Cambodia reviews existing laws, regulations, and policies every three years. This is done through internal meetings of respective ministries to determine their adequacy in fulfilling environmental objectives in the context of the national situation and relevant international obligations.

Cambodia involves stakeholders during decision-making, through public hearings, on whether or not to become a party to an MEA. Public hearings are also used for decision making during MEA implementation. In addition, Cambodia organizes formal meetings with all relevant institutions and agencies, such as ministries, academics and NGOs, for them to provide comments and input during the assessment on advantages and disadvantages of becoming a party and in implementing the MEA in question.

#### *MARPOL 73/78*

The Ministry of Public Works and Transportation acts as the lead agency in Cambodia for issues related to MARPOL 73/78. It has an important role in the monitoring of ship-based pollution. The Port Authority provides facilities for visiting ships.

Two national capacity building programmes have been implemented to strengthen implementation of MARPOL 73/78. These deal with the implementation of the MARPOL Convention and the Port State Control.

#### *London Convention and the 1996 Protocol*

Cambodia is not a party to the London Convention and does not intend to become a party to this Convention.

#### *OPRC and the OPRC-HNS Protocol*

Cambodia has not yet ratified the OPRC but is, in the process of doing so. Cambodia has just signed a Joint Statement on Partnership in Oil Preparedness and Response in the Gulf of Thailand together with Thailand and Viet Nam as a sub-regional arrangement for oil spill preparedness and response. At national level, Cambodia is currently preparing a National Oil Spill Contingency Plan and a Sub-decree for the Implementation of the National Oil Spill Contingency Plan.

The Ministry of Public Works and Transportation currently acts as the lead agency for the OPRC and functions as a coordinating institution. Oil spill response and clean-ups come under the responsibility of the Navy and Port Authorities.

Some capacity building on oil spill response and clean up has already been undertaken in Cambodia.

#### *BWM*

Cambodia is currently not in the process of becoming a party to the BWM.

#### *GPA*

Cambodia has adopted different legislation related to the GPA. These include the Law on Protected Areas (2005) (Draft), the Law on Water Supply and Sanitation (2004) (Draft), the Sub-decree on Water Pollution Control, the Sub-decree on Solid Waste Management, and the Decision on Encroachment into Mangrove Land and Coastal Reclamation (2005). In addition, several national plans and policies have been developed to strengthen the GPA. These include the National Environmental Action Plan (2003–2008), the National Policy on Water Supply and Sanitation (2003), the National Water Resource Policy (2004), and the Strategic Plan for Prevention and Reduction of Land-based Pollution (Draft).

The Department of Pollution Control under the Ministry of Environment acts as the lead agency for implementing the GPA. It is also responsible for the enforcement of existing laws and the control and monitoring of water quality. Provincial Environment Departments are responsible for the enforcement of existing laws and regulations related to the GPA.

The most important national programmes and projects Cambodia has conducted for the implementation of the GPA have included the implementation of the land-based components under the UNEP/GEF Project “Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand”, the Integrated Coastal Management Project in Sihanoukville (2000–2006), the Cambodia National Capacity Assessment Programme (2004–2006) and the project “Participatory Management of Coastal Resources” (2004–2007). Some implemented capacity building activities related to the GPA for the benefit of government and the general public have looked at integrated waste management, invasive species control, sea zone development, marine litter monitoring and management, shoreline management and national marine environmental awareness.

### 3.2.3 People's Republic of China

China has participated in negotiations for all of the five MEAs considered in this review. Before acceding to an MEA, China considers various aspects of it. The assessment process includes the participation in the development of an MEA by national experts, review of existing national legislation, policies and action programmes related to the MEA to determine the costs and benefits of accession and consultation with relevant ministries, agencies and local governments. Concerned stakeholders are also approached for advice and comments.

As a party to MEAs, China develops a series of compliance and enforcement plans consistent with the required obligations. During implementation, China regularly reviews the adequacy of existing laws, regulations and policies for the fulfilment of environmental objectives. Such reviews usually start with problem identification. The lead agencies responsible for international conventions consult relevant ministries, agencies, coastal provincial governments and shipping and oil industries to seek their advice and comments.

In China, several government authorities share the function on MEA implementation. While SEPA acts as a lead agency for the GPA, the lead government agency for the implementation of all IMO conventions is the Maritime Safety Administration (MSA) under the Ministry of Transport. When examining IMO conventions, MSA consults with several other government agencies including SEPA,<sup>22</sup> the Ministry of Construction, the State Forest Administration, the Ministry of Water Conservancy, and the State Oceanic Administration (SOA) under the Ministry of Land and Resources.<sup>23</sup> The MSA is also responsible for consultations with coastal provincial governments and the shipping communities regarding the requirements of a particular convention that China intends to ratify.

MSA and officers of other ministries, headed by a MSA officer, normally attend MEPC Meetings or IMO committee meetings for MARPOL, OPRC (including Oil Spill Exercises organized by MPA), the London Convention, and BWM. China also participates in IMO technical working group meetings by MEPC to prepare for the BWM and its guidelines. SEPA participates in all inter-governmental and technical meetings of the GPA.

#### *MARPOL 73/78*

The compliance plans for MARPOL 73/78 include a section on maritime development in the Tenth 5-Year Plan and the MSA produced "Instructions on the Implementation of Regulations for Prevention and Control of Pollution to Inland Waters from Ships" and "Guidance on Further Enhancement of Port State Control".

MSA acts as the lead agency for the implementation of MARPOL 73/78 with responsibilities for shipping management, ballast and introduced species and the port environment. Other organisations involved in the implementation include the Ministry of Water Resources and the Environmental Protection Commission of the People's Liberation Army of China.<sup>24</sup>

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<sup>22</sup> According to Article 7 of the Law of China on Environmental Protection 1999, SEPA is the competent authority to conduct unified supervision and management of the environmental protection tasks throughout the country.

<sup>23</sup> SOA is responsible for policy and administration of national marine/ocean issues in China. It also takes charge of the organisation of survey, monitoring and surveillance of the marine environment, conduct of scientific research, pollution prevention from offshore oil exploration and exploitation and waste dumping at sea.

<sup>24</sup> It is responsible for the supervision of pollutant discharge by military vessels and surveillance of navel port waters.

### *London Convention and the 1996 Protocol*

MSA and SOA jointly implement the London Convention where they share responsibilities in environmental protection of offshore waters, marine water quality monitoring, ocean waste dumping and marine exploration and development programmes. In addition, the Ministry of Foreign Affairs, SEPA, the Ministry of Agriculture, the State Forestry Administration, and the Environmental Protection Commission of the People's Liberation Army of China are involved in its implementation.

### *OPRC and the OPRC-HNS Protocol*

In 2003, China adopted the National Program on Oil Spill Preparedness, Response.

MSA acts as the lead agency for OPRC implementation. In addition, the Ministry of Foreign Affairs and the Environmental Protection Commission of the People's Liberation Army of China are involved in OPRC implementation.

### *BWM*

The BWM is not yet in force, but China is actively studying possible early accession. It is expected that China's Agenda 21 will facilitate future implementation of BWM. For now, MSA acts as the lead agency for the BWM.

### *GPA*

In 2007, China developed the National Action Plan for the Protection of the Marine Environment from Land-based Activities that is expected to be adopted shortly. To implement the GPA, China has also adopted a number of laws. Some of the most important regulations include the Regulations on Prevention of Land-based Pollution to the Marine Environment (2006); Regulations on the License of Priority Water Pollutants Discharge into Huai River and Tai Lake (2001); and the Regulations on Environmental Protection in Exploration of Offshore Petroleum.

In addition, China has also adopted action plans enabling the implementation of the GPA, such as:

- Plan of Action for the Clean Bohai Sea (2001-2015/2006-2010) ;
- Plan of Action for the Clean Changjiang River Estuary and Bordering Waters;
- Plan of Action for the Clean Pearl River Estuary and Bordering Waters;
- The Tenth Five-year Plan for the Prevention of Pollution in Huaihe River (2001–2005);
- The Tenth Five-year Plan for the Prevention of Pollution in Liaohe River (2001–2005);
- The Tenth Five-year Plan for the Prevention of Pollution in Taihu Lake (2001–2005); and
- The Tenth Five-year Plan of the Prevention of Pollution in Chaohu Lake (2001–2005).

SEPA is responsible for issues concerning pollution control and marine environmental protection in China. It acts as the lead agency for the GPA and general coastal and marine environmental management, near-shore water quality, wastewater discharge, coastal and near-shore developing projects and near-shore water functional zoning. In addition, the Ministry of Agriculture, the Ministry of Water Resources, SOA, State Forestry

Administration, and the Environmental Protection Commission of People's Liberation Army of China are involved in GPA implementation.

### **3.2.4 Indonesia**

In Indonesia, the procedures and mechanisms to be followed prior to ratifying an international convention are regulated by an Act No. 24/2000 under the Foreign Department of Indonesia.

Stakeholders are involved in the decision-making process to become a party as well as during the implementation of the MEAs. Such stakeholder consultations are arranged through the House of Representatives. However, Indonesia does not conduct regular reviews on the adequacy of existing laws, regulations and policies for their fulfilment of environmental objectives and in the context of the relevant international obligations and the national situation.

In Indonesia, the Directorate General of Marine Transportation under the Ministry of Transportation is the national competent authority with a mandate for dealing with issues related to MARPOL 73/78, OPRC, and BWM. Its roles and responsibilities include: policy formulation for the Ministry of Transportation; policy implementation in marine traffic and carrier, port and dredging, shipping and marine navigation and safeguard; formulating standards, guidance, criteria and procedure in marine transportation; and providing technical assistance and evaluation to the implementation of MEAs. The Ministry of Environment has a role to play in the control of environmental impacts related to MARPOL 73/78 and BWM, and acts as the lead agency with regard to matters relating to the London Convention and the GPA. As a lead agency, its responsibilities include analysis and evaluation of the MEA in question, coordination and arrangement for ratification and information dissemination.

As a non-party to most of the selected MEAs, the Directorate General of Sea Transportation of Indonesia has attended relevant meetings of MARPOL, and the Head of the Division for Marine Environmental Protection within the Ministry of Environment of Indonesia has attended relevant meetings of the GPA.

#### *MARPOL 73/78*

As a party to MARPOL 73/78, Indonesia has developed implementation plans including the Ministerial Decree of Transportation No. 167/KM.207/PHB-86, concerning the International Certification for Pollution Prevention from Oil and Noxious Liquid Substances, that requires ships to have international certification. The Ministerial Decree of Transportation No. 215/AL/506/Phb-87 that controls the compliance of port authorities in providing reception facilities. The Ministerial Decree of Transportation No. 86/1990 concerns oil pollution prevention from ships.

The Directorate General of Marine Transportation acts as the lead agency for MARPOL 73/78 related matters.

#### *London Convention and the 1996 Protocol*

Indonesia is currently not a party to the London Convention, and does not have any national implementation plan. Indonesia has expressed its intention of joining the London Convention and has some relevant laws and regulations in place.

The Ministry of Environment acts as the lead agency for the London Convention. The Directorate General of Marine Transportation under the Ministry of Transportation, the Ministry of Marine Affairs and Fisheries, and the Ministry of Agriculture share the role in

dredging management, fisheries waste management, and the control of agricultural waste runoff (pesticide, fertilizer, etc) and domestic and industrial waste management, respectively, which relates to the London Convention.

#### *OPRC and the OPRC-HNS Protocol*

Indonesia is currently not a party to the OPRC, and does not have any national implementation plan. Indonesia has expressed its intention of joining OPRC and has some relevant laws and regulations in place.

The Directorate General of Marine Transportation under the Ministry of Transportation is responsible for matters related to the OPRC. In addition, the Ministry of Environment and the Ministry of Energy and Mineral Resources deal with the control of environmental impact in setting up the prevention, handling, and rehabilitation of oil pollution related to OPRC.

#### *BWM*

Indonesia has expressed its intention of joining the BWM once it has entered into force. The Directorate General of Marine Transportation is responsible for matters relating to the BWM.

#### *GPA*

Indonesia has been participating in the GPA, but has not yet developed a GPA NPA. However, a National Policy for Development of Community-based Water Supply and Environmental Sanitation relating to the GPA has been developed. In addition, two national programmes have been implemented relating to the GPA: the APIDURA programme (Compliance of City Towards Environmental Law and Cleanliness) and the PROPER programme (Compliance of Industry Towards Environmental Law and Cleanliness). The Ministry of Environment acts as the lead agency for matters related to the GPA.

### **3.2.5 Republic of Korea**

To ratify any international conventions in the Republic of Korea, the obligations and provisions of the convention should be incorporated in existing or new laws and approved by the National Assembly of the Republic of Korea.

It is a common practice to have stakeholder involvement in the decision-making process to become a party and implement the MEAs. To become a party to any MEA, a public hearing and a congress hearing should be conducted. Normally, research to assess the adequacy, effects, and impacts on the Republic of Korea of joining a particular MEA is conducted at least five years ahead of time. If the results of the research confirm the necessity to become a party, the necessary hearings will be held.

The Republic of Korea is very active in revising the existing laws and regulations in view of its international obligations and domestic needs. Responsible ministries frequently launch research on legal reformation. Once complete, the results are open to the public at a public hearing before submission to the Congress. After that, the Congress reviews the necessities of the reform.

The Ministry of Maritime Affairs and Fisheries (MOMAF) is the national competent authority with a complete role in law and policy development for MARPOL 73/78, OPRC, the London Convention, BWM and the GPA. MOMAF also attends all IMO meetings and intergovernmental coordination meetings, such as MEPC for MARPOL 73/78 and the London Convention; intergovernmental coordination meetings for OPRC and BWM and intergovernmental meetings/workshops for the GPA. Besides MOMAF, the Korea Ocean

Research and Development Institute (KORDI) attend technical meetings for MARPOL, OPRC, London Convention and BWM and the Korea Maritime Institute (KMI) takes part in the workshops of GPA.

The public is generally aware of the issues of MEAs in the Republic of Korea, but not of the specific MEA's content and organization. Education programmes and information dissemination on MEAs for stakeholders are limited. The general public understands the issues only in relation to sewage, domestic waste and oil spills.

#### *MARPOL 73/78*

The Marine Environment Act (2007) is an important law for MARPOL 73/78. In addition, the Republic of Korea has adopted an Emergency Plan for Marine Pollution from Ships to implement MARPOL 73/78 and implemented a Marine Pollution Prevention Programme to support the implementation of MARPOL 73/78.

MOMAF acts as lead agency for MARPOL 73/78 while the Korea Coast Guard (KCG) has responsibilities related to law enforcement, inspection and Port State Control (PSC). In addition, a Marine Environment Steering Committee with members comprising representatives from MOMAF, KCG, MOE, and other related ministries was established to be responsible for the use and conservation of ocean-related conflict regarding the implementation of MARPOL 73/78.

#### *London Convention and the 1996 Protocol*

The Marine Environment Act (2007), the Waste Management Act (2007) and the Sewerage Act (2007) are the most important laws for the London Convention. In addition, a National Ocean Dumping Reduction Plan and a National Dumping Site Monitoring Programme have been developed. The Republic of Korea also implemented a National Ocean Dumping Management Programme in order to support the implementation of the Convention.

MOMAF acts as lead agency for the London Convention while KCG also has a role in monitoring, research and statistics. The Marine Environment Steering Committee, described above, is also responsible for matters relating to the London Convention.

#### *OPRC and the OPRC-HNS Protocol*

The Marine Environment Act (2007) is also important for OPRC. In addition, a National Oil Spill Contingency Plan and the NOWPAP Regional Oil Spill Contingency Plan were adopted to support OPRC implementation.

MOMAF acts as the lead agency for OPRC, while KCG is responsible for law enforcement, inspection and Port State Control (PSC). The Korea Marine Pollution Response Corporation (KMPRC) is responsible for oil spill removal and equipment mobilization. In addition, a National Oil Spill Task Force Team has been set up by MOMAF, KCG, and Regional Police Agencies for immediate action for the prevention of oil spreading during oil spill accidents under the OPRC framework.

#### *BWM*

Even though the Republic of Korea has not yet ratified the BWM, the Marine Environment Act (2007) also reflects the requirements of this Convention. A "Ballast Water Treatment Technology Development Programme" has already been implemented in the Republic of Korea.

MOMAF acts as lead agency, while KCG also has a role in the inspection of ships for BWM.

## *GPA*

The Marine Environment Act (2007) is also relevant to the GPA as are practically all environmental laws in the Republic of Korea. In addition, a GPA NPA was adopted by the Republic of Korea in 2006.

MOMAF acts as the lead agency for the GPA, responsible for the protection of the marine environment, clean-up, dredging, protected areas and coastal preservation standards from industry and public sectors. The Ministry of Environment (MOE) has responsibilities for laws and regulations on discharge standards related to the GPA. A joint committee between MOMAF and MOE was set up to coordinate land and ocean conservation policies.

### **3.2.6 Malaysia**

The process of assessing Malaysia's preparedness to comply with the obligations of an MEA differs depending on the MEA in question. Before ratifying an MEA, the MEA is assessed on a case-by-case and 'needs' basis by the relevant agencies, research institutions or universities. There is no standard procedure or template for this assessment.

Similarly, the stakeholder involvement in the decision-making process to become a party to the MEA and to implement particular MEAs is different depending on the MEA. In general, Malaysia does not conduct public hearings regarding MEAs. It does, however, consult with major NGOs, such as the World Wide Fund for Nature, the Third World Network and the Malaysian Nature Society when it comes to MEAs, such as the Convention on Biological Diversity and UNFCCC. OPRC stakeholders are involved in contingency planning.

In Malaysia, enforcement is carried out by the Marine Department. Periodical reviews of the adequacy of existing laws, regulations and policies are conducted in Malaysia by the agencies or ministries concerned. No standard procedure or process is applied.

Malaysia is not able to regularly attend the relevant meetings of the MEAs. Even when delegations are on mission, the number of delegates is usually small and sometimes not adequate to cover all working groups during the meeting. The Marine Department and other agencies including the Department of Environment, Malaysian Palm Oil Board, Malaysian International Shipping Corporation and PETRONAS join delegations on a case-by-case basis. For MARPOL and OPRC, the actual delegation to the MEPC meetings discusses both MARPOL and OPRC issues.

Malaysia reports to have specific expertise in the areas of MARPOL 73/78-related waste reception facilities, OPRC-related oil spill control (both the public and private sector), and GPA-related sewage treatment planning and engineering.

#### *MARPOL 73/78*

Malaysia does not have a specific compliance plan for MARPOL 73/78, but national environment policy enables the implementation of MARPOL 73/78. Specifically, Malaysia Merchant Shipping Ordinance (Oil Pollution Act) 1994 is applied for Annex I of MARPOL 73/78 and regulations for other annexes are being drafted.

For Malaysia, the Marine Department is the lead agency for MARPOL 73/78 and is responsible for the formulation and enforcement of laws and policies. Port authorities share responsibilities for the implementation of MARPOL 73/78 with regard to the provision of waste reception facilities.

### *London Convention and the 1996 Protocol*

Malaysia is currently not a party to the London Convention. Consideration is being given to ratification, but work is reported to be at a very preliminary level.

### *OPRC and the OPRC-HNS Protocol*

The Environmental Quality Act (1974) applies to the OPRC. In addition, the National Oil Spill Contingency Plan and the ASEAN Oil Spill Response and Preparedness function as implementation plans for OPRC.

The Department of Environment and the Marine Department act as lead agencies for the OPRC with shared responsibility for the overall implementation of the National Oil Spill Contingency Plan and on site command during oil spills. The National Oil Spill Control Committee was set up by the Department of Environment, Marine Department and the Petroleum Industry of Malaysia Mutual Aid Group (PIMMAG) to coordinate oil spill control activities. In addition, private contractors and PIMMAG work together for the implementation of OPRC in the maintenance of oil spill control equipment and stockpiles. The private sector, i.e. oil companies, contributes to oil spill control activities and equipment.

### *BWM*

Malaysia is currently not a party to the BWM. Consideration is being given to ratification, but work is reported to be at a very preliminary level.

### *GPA*

Malaysia does not have implementation plans directly related to the GPA, but has long running plans on solid waste and sewage management. The Environmental Quality Act 1974 and local government by-laws on solid waste disposal and sewage treatment is applied for the GPA. However, these instruments were already established before Malaysia endorsed the GPA. In addition, the National 3R (Reduce, Recycle, Reuse) Campaign and Farm Accreditation Programme is aimed at reducing the use of agrochemicals and enabling the implementation of the GPA.

The Department of Environment and local governments are the competent authorities for the GPA in the formulation of laws and policies, enforcement of industrial pollution control laws, toxic waste disposal and environmental impact assessment for land development, and regulate collection and disposal of domestic waste. Indahwater Consortium (IWK) and Alam Flora play roles in the GPA on national sewage treatment cooperation, and private solid waste management, these corporations are responsible for large parts of Malaysia. Malaysia has allowed privatisation of sewage treatment and disposal to IWK and privatisation of domestic waste collection and disposal.

### *Funding and economic instruments*

In Malaysia, economic instruments are employed to facilitate the implementation of the MEAs. Some examples relevant to the GPA are: the application of the Polluter Pays Principle through fees charged by ports for the use of waste reception facilities under the framework of MARPOL 73/78; sewage discharge fees on households and industries and domestic waste collection fees being incorporated into local government taxes Also relevant to the GPA are the tax incentives given to encourage the oil processing industry to reduce discharges, leading to improved compliance.

### 3.2.7 Philippines

As an archipelagic state, the Philippines attaches great importance to its marine environment. Several government departments are authorised to take charge of marine and ocean affairs.

The Maritime and Ocean Affairs Centre (MOAC) under the Department of Foreign Affairs<sup>25</sup>, the Department of Environment and Natural Resources (DENR) and the Department of Agriculture's Bureau of Fisheries and Aquatic Resources (BFAR) are principally responsible for the national planning, policies and evaluation of the Philippines marine environment.<sup>26</sup>

The DENR, created in 1987, is the primary government agency responsible for environmental management, conservation, development and proper use of the country's environment and natural resources. The DENR engages in the licensing and regulation of all natural resources, as may be provided for by law, in order to ensure equitable sharing of the benefits derived for the welfare of present and future generations of Filipinos. In particular, the Environmental Management Bureau (EMB) of DENR is responsible for pollution management. The policies that are formulated by the DENR and its bureaus are implemented by DENR Regional Offices, which are found in the thirteen administrative regions of the country, and the DENR Provincial Environment and Natural Resources Offices (PENROs) within each province. Within the DENR network are also two quasi-judicial bodies, the Pollution Adjudication Board (PAB) and the Mines Adjudication Board (MAB). The PAB has original jurisdiction over pollution cases, while the MAB has appellate jurisdiction over the resolution of the Panel of Arbitrators in each DENR Regional Office regarding mining disputes.

The Department of Transportation and Communication (DOTC) is responsible for all marine transport and navigation issues. To carry out its mandate, the Department has five sectoral/line offices, which include the Philippines Coast Guard (PCG). In addition, it has eight attached corporations, of which the Philippines Ports Authority (PPA), the Cebu Port Authority (CPA) and the Maritime Industry Authority (MARINA) are of relevance to the marine environment.

The process of assessing the Philippines' preparedness to comply with the obligations of an MEA is initiated through the concerned agency on the possibility of ratifying a particular IMO convention. Since it is international, it will pass through the DFA and will then be submitted to the House of Senate for approval and ratification. Presently, the procedure is that the DOTC will consult with the concerned agency for a possible ratification of a convention and afterwards submit it to the House of Senate for ratification.

There are stakeholder involvements in the decision making process for the Philippines to become a party to MEAs. Before the Philippines becomes a Party to an international agreement, the lead agency is required to hold inter-agency meetings to discuss the convention or agreement. In the case of MARPOL, the London Convention and OPRC, the lead implementing agency, the PCG, is responsible for convening meetings related to the implementation of the Conventions.

The PCG is regularly reviewing and revising its Memorandum Circulars to become updated with the changing needs of maritime industry. Inputs to the revision would always come from Marine Environmental Protection Units (MEPU) co-located in the ten Coast Guard Districts. Annually, the MEPU conducts a workshop to settle issues arising from the implementation of the memorandum. After the workshop, all the inputs would be forwarded to the Commandant,

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<sup>25</sup> <http://www.dfa.gov.ph>, and <http://www.dfa.gov.ph/moac/moac4.htm>.

<sup>26</sup> <http://www.denr.gov.ph/>

of the PCG for approval and, once it is approved, the PCG will conduct a public hearing participated in by stakeholders. After the public hearing it will be submitted to the National Gazette for publication.

The general public has a good understanding of the issues addressed in the MEAs. The Philippines Coast Guard personnel disseminate information on marine environmental protection to the different areas of the Philippines. Moreover, PCG trains various government agencies and non-government agencies on how to respond to oil spills. The Department of Environment and Natural Resources has conducted a national Workshop on Invasive Alien Species.

#### *MARPOL 73/78*

The Philippines has formulated specific compliance plans and regulations pertaining to MARPOL 73/78. The PCG Memorandum Circulars form the basic national actions for the implementation of MARPOL.

The PCG of the Philippines is the lead agency dealing with issues related to MARPOL 73/78. Its functions consist of: preparing regulations based on MARPOL 73/78; issuing statutory certificates and inspection of ships; enforcing and monitoring of compliance; receiving and processing reports on incidents involving harmful substances, and communicating with IMO; conducting investigations on ships' casualties and; ensuring adequacy of reception facilities in ports and terminals.

The Philippines attends meetings, training courses, and seminars/workshops including the Marine Environmental Protection (MEPC) Committee meetings at IMO in London, the Oil Identification Analysis at Kure, Japan, the MAREP II Course at Okinawa, Japan and the Implementation of MARPOL 73/78 Annex II in Malaysia.

#### *London Convention and the 1996 Protocol*

The Philippines has ratified the London Convention. The PCG Memorandum Circulars also cover the obligations of the London Convention besides submitting an Annual Dumping Report to IMO.

The PCG of the Philippines acts as the lead agency dealing with issues related to the London Convention. The mission of PCG for the London Convention is to formulate regulations pertaining to dumping and identify dumping sites. The Environmental Management Bureau (EMB) of DENR has a role to play for this Convention, too.

#### *OPRC and the OPRC-HNS Protocol*

The Philippines has adopted a "National Oil Spill Contingency Plan" for the implementation of OPRC. In addition, the "RP-RI Bilateral Exercise Plan, Oil Spill Response Action Plan (OSRAP)", and the "Oil Spill Preparedness and Response (OSPAR)" were also adopted to protect its ocean, according to the OPRC.

The PCG of the Philippines is also the lead agency dealing with issues related to OPRC, and it is the focal point for oil spill response in the Philippines. It also prepares for the National Oil Spill Contingency Plan, requires oil spill contingency plans for terminals, depots and power plants, and coordinates with other countries for oil spill response cooperation.

The national program conducted for the implementation of OPRC in the Philippines is the "Revision of National Oil Spill Contingency Plan".

The Philippines attended some meetings and training courses for the implementation of the selected MEAs, including: the Oil Spill Contingency Planning at Yokohama, Japan; the Oil Spill Preparedness and Response (OSPAR) in Indonesia; the RP-RI Bilateral Exercise at Iloilo, the Philippines; the International Chemical & Oil Pollution Conference (ICOPCE) in Malaysia.

#### *BWM*

The Philippines is currently not a party to the BWM, but it has expressed interest in becoming a party to it. In the Philippines, the Coastal and Marine Management Office (DENR), the Bureau for Protected Areas and Wildlife, and the Bureau of Fisheries and Aquatic Resources share the role for the Ballast Water Convention.

The Bureau of Fisheries and Aquatic Resources, the University of the Philippines, the Department of Transportation and Communication under the Maritime Authority, and the Philippines Ports Authority share responsibilities for the Ballast Water Convention.

The Philippines attended the conference for the Ballast Water Convention in China.

#### *GPA*

The Philippines is a member of the GPA, and it has national legislation for the implementation of the GPA including the Clean Water Act, the Solid Waste Management Act, the National Sanitation Code, and the Water Code.

The Environmental Management Bureau (EMB) of DENR and CMMO care for the GPA in preparation for the National Action Program and the State Report on the Coastal and Marine Environment. The Department of Health shares a role in the GPA.

The Philippines attended training workshop on the Preparation of National Action Plans, IGR-1 and IGR-2.

#### *Funding and economic instruments*

Accreditation fees are employed in the Philippines as economic instruments to facilitate efficient implementation of MARPOL.

### **3.2.8 Singapore**

The Singapore Constitution contains no provisions on the relationship between international law and national law. The Executive Branch is responsible for foreign affairs and for decisions to ratify international treaties. The Ministry in charge of a specific MEA is responsible for reviewing such an MEA and determining whether Singapore should become a party to that MEA or not. The ministry or a statutory body under its purview will be the lead agency to undertake the review. The lead ministry or agency will also seek views of other relevant ministries or agencies regarding the review. Every aspect of the convention is carefully scrutinized to determine exactly what will be the costs and benefits of becoming a party. If there is a recommendation for Singapore to become a party, the Minister concerned makes a formal proposal to Cabinet for final decision. There is no requirement for prior referral to Parliament for any advice or consent.

Singapore has a complex but very efficient system for law and policy-making, which ensures the authority and compliance of the national legislation. International treaties do not become part of the national law until “implementing legislation” is passed by the Parliament. Therefore, whenever Singapore becomes a party to an international convention, implementing legislation is required to ensure that the obligations of the convention are

incorporated into Singapore law. Singapore's practices and procedures enable it to draft laws and regulations implementing the conventions in a very efficient manner. As part of its review on how to implement an IMO convention into domestic law, Singapore examines how other leading common law countries have implemented the convention. Sometimes Singapore uses the implementing legislation of other countries as a model for its own legislation.

A responsible ministry or agency is mandated to ensure that any convention Singapore is a party to is effectively implemented and enforced from the day the convention enters into force for Singapore. The review process includes a careful study of what new legislation will be required to implement the convention. The Legislative Drafting Division of the Attorney-General's Chambers has responsibilities in drafting implementing legislation for MEAs. Responsible ministries/ agencies for implementing or enforcing the convention may prepare an implementation plan. In practice, implementation and enforcement of the obligations required by any convention have to be understood by all stakeholders. In some cases for new IMO conventions there may be a short grace period where companies that do not comply are issued warnings, but this is the exception rather than the rule. In many cases companies are encouraged to comply with the standards and requirements in a new convention even before it enters into force.

In Singapore, the Maritime and Port Authority of Singapore (MPA) is the lead agency responsible for all matters relating to marine pollution in general and to IMO Conventions, such as MARPOL 73/78, OPRC, the London Convention, and BWM.<sup>27</sup> Its responsibilities include studying IMO conventions in order to recommend on whether Singapore should become a party to any particular IMO convention. The general policy of the MPA is to become a party to all IMO conventions on ship-source pollution. The MPA closely follows the development of new IMO conventions and their annexes, and carefully studies new conventions or annexes to be adopted by the IMO.

The Ministry for the Environment and Water Resources (MEWR) is the lead agency for all matters relating to pollution of the land territory and waters within Singapore, such as reservoirs and rivers, including matters related to the GPA.

When the MPA decides to undertake a review of a convention, a working group will be established with one MPA officer serving as chairman. The working group will consist of the representatives of the various divisions within the MPA. The working group may also comprise representatives from other relevant government agencies. Before becoming a party to an IMO convention, the MPA will consult with the shipping industry in Singapore and any other relevant stakeholders to seek their advice and comments. The shipping industry and other relevant stakeholders are asked to study what problems they will face in implementing the standards and procedures in the convention, and are asked to give feedback to the MPA. Seminars and workshops may also be held to advise the stakeholders of the decisions and to receive feedback from them. The MEWR adopts a similar practice.

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<sup>27</sup> The MPA is not a government department, although it comes under the purview of the Ministry of Transport. It is a statutory board which was created in 1996 by an Act of Parliament, the Maritime and Port Authority Act (Act 7 of 1996, CAP 170A, Revised Singapore Statutes). The MPA is Singapore's national sea transport representative, and is responsible for safeguarding Singapore's maritime and port interests in the international arena. It acts as the government's adviser on matters relating to sea transport, marine and port services and facilities.

As an active member of the IMO Council, Singapore actively participates in the drafting of the many IMO conventions. Singapore attends all relevant meetings of the IMO Committees, such as MEPC meetings on MARPOL, the OPRC (including the Oil Spill Exercises organized by MPA) and the London Convention. Regarding BWM, Singapore takes part in the MEPC and working group meetings to prepare the Convention and its guidelines.

#### *MARPOL 73/78*

The regulations to implement MARPOL 73/78 are issued by MPA under the authority of the Prevention of Pollution of the Sea Act, 1990. Some of the regulations issued under this act include regulations on oil, noxious liquid substances, garbage, sewage, air and reception facilities.

In fulfilling its obligations under MARPOL 73/78, the MPA imposes an obligation on the Port of Singapore Corporation and other terminal operators in Singapore to provide “reception facilities” for oil, oily waste and garbage.

#### *London Convention and the 1996 Protocol*

Singapore has not yet acceded to the 1972 London Convention or the 1996 Protocol. The MPA has been consulting other Government agencies to determine whether Singapore should accede to the 1996 Protocol to the London Convention. The decision has yet to be made.

#### *OPRC and the OPRC-HNS Protocol*

The MPA issued regulations to give effect to the OPRC under Singapore law. The regulations were issued under the Prevention of Pollution of the Sea Act. The Prevention of Pollution of the Sea (Oil Pollution Preparedness, Response and Co-operation Regulations were brought into force on the same date the Convention came into force for Singapore, i.e. 10 Jun 1999.

In preparing for OPRC implementation, the MPA revised its National Oil Spill Contingency Plan (NOSCP) to incorporate requirements set out in the OPRC. In addition, oil spill exercises are held annually by the MPA to test the operational aspects of the NOSCP.

The implementation of the OPRC requires the MPA to collaborate with many other government agencies and NGOs.<sup>28</sup> The following government departments have a role in preparing for oil spills.

- Ministry of the Environment and Water Resources (MEWR): Responsible for shoreline-line clean-up and clean-up of any land areas.
- Ministry of Defence (MINDEF): Mobilizes aircraft for reconnaissance and clean-up if called upon to do so.
- Ministry of Home Affairs (MHA): Provides manpower for shoreline clean-up in large spills and facilitates immigration clearance for foreign clean-up specialists and manpower entering Singapore to assist in the clean-up.
- Immigration & Check-Points Authority (ICA): Facilitates customs clearance for clean-up equipment brought into Singapore to assist in clean-up operations.
- Civil Aviation Authority of Singapore (CAAS): Assists in seaward rescue and provides fire-fighting equipment if necessary

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<sup>28</sup> This information is from Zafrul Alam, “Singapore’s Recent Accession to the OPRC Convention – How the Republic Discharges its Obligations under the Convention”, paper presented at the International Oil Pollution Conference & Exhibition, 1-3 September, 1999. The names of the Government agencies have been updated.

- Ministry of Health: Provides medical aid to people affected by the fumes evolved from the spill and advises on health matters relating to the clean-up operations
- Agri-Food & Veterinary Authority of Singapore (AVA): Assesses damages and advises strategies for protection of fish farms and other living resources.

Many private companies are also involved in preparing for and fighting oil spills.

- The Port of Singapore Corporation (PSA), the corporate body which operates the port, provides support in clean-up operations by providing tugs, manpower and equipment.
- The petroleum, petrol-chemical companies, and oil storage companies operating in Singapore provide expert advice to the MPA through advisory groups. In addition, every company which operates an oil handling facility or offshore installation is required to keep a stock of dispersants and certain equipment, including tugs and booms, to assist in combating an oil spill. The companies are also required to provide logistics, equipment and manpower if a spill occurs.
- Oil spill clean-up companies based in Singapore provide manpower, equipment and expertise if activated when a spill occurs.

Singapore acceded to the OPRC-HNS Protocol on 16 Oct 2003 and the Prevention of Pollution of the Sea (The Hazardous and Noxious Substances Pollution Preparedness, Response and Co-operation Regulations 2004 were brought into force on the same date the Protocol came into force, i.e. 1 Apr 2004).

#### *BWM*

The Ballast Water Convention is not yet in force and will not be ready until the IMO completes the detailed Guidelines necessary for implementation. Singapore has issued a number of shipping circulars and has been briefing the shipping community to prepare for implementation of the Convention in future. As the guidelines needed under the Convention are expected to be finalized by IMO Bulk Liquids and Gases Sub-Committee and the Marine Environment Protection Committee (MEPC) by 2010, and viable cost-effective ballast water treatment technology is expected to be available by 2010/2011, the MPA will review Singapore's possible acceptance of the Convention in 2011 and recommend to the Government accordingly.

#### *GPA*

Singapore is a small city state with a population of about 4.5 million people. It is highly urbanised and industrialised. Singapore developed its industrial base and achieved high economic growth in less than three decades. During the same period, there were also parallel developments in the housing, commercial and service sectors. All these developments generated pollution, wastewater and solid waste, and would have caused degradation to the environment if not properly managed. However, environmental degradation did not occur because Singapore adopted a forward looking and integrated approach to environmental protection and management. First, great emphasis is placed on judicious land use planning for housing, commercial, industrial, agricultural, recreational and water catchments. Second, investments in waste collection and treatment infrastructure are made in tandem with industrial and urban developments to minimise pollution to our land and waters. Third, legislation enacted to control pollution is applied judiciously and complemented by close monitoring and strict enforcement.

This multi-pronged approach has enabled Singapore to achieve sound economic development and, at the same time, maintain a clean and healthy environment. Today, Singapore has a comprehensive sewerage infrastructure and solid waste management system that serve the whole island. This, together with a comprehensive legislative and enforcement control regime, has enabled Singapore to effectively control land-based pollution. The water quality of inland water bodies and coastal areas is also monitored regularly. Samples are collected for physical, chemical and microbiological analysis. Such measures have ensured that the water quality of inland and coastal waters in Singapore remain good. Singapore has not participated in any GPA conference but nonetheless is keen to learn and share with other countries its experiences in the management of land-based pollution.

### **3.2.9 Thailand**

In order for Thailand to ratify an international convention, a responsible government agency usually proposes the ratification to its ministers. The responsible agency would then be mandated to review existing laws and regulations to see if there is any need for amendment or for the establishment of any new laws or regulations. In most cases, this process also involves consultations with other concerned agencies and stakeholders from other sectors, including NGOs and the private sector.

Thailand conducts public hearings as a form of stakeholder involvement in the decision-making process. Annually the Thai government agencies have to submit regulations for amendment to catch up with the national situation. In recent years some legislation has been amended to fulfill the obligation of international treaties. Other types of stakeholder involvement for the MEAs' purposes include the consultation of UN agencies and other international organisations.

#### *MARPOL 73/78*

The government has issued the Marine Department Declaration no.329/2545 (2002) and no.143/2546 (2003) under the Navigation in Thai Waterways Act B.E. 2456 (1913) in order to support the implementation of MARPOL 73/78. Thailand recently ratified the Convention. In addition, major ports are required to provide reception facilities to prepare for the accession of the 1973 MARPOL Convention and its 1996 Protocol.

The Marine Department under the Ministry of Transport is the lead agency with a mandate for dealing with pollution from ships that relate to MARPOL 73/78. In addition, the Port Authority of Thailand, the Private Port Facilities Club and the Thai Ship Owners Association share responsibilities for MARPOL 73/78. The Port Authority of Thailand and the Private Port Facilities Club control traffic and wastes from ships, while the Thai Ship Owners Association takes care of the ship owners' interests.

#### *London Convention and the 1996 Protocol*

Thailand is not a party to the London Convention or to the 1996 Protocol. However, the Regulation on Ship Survey no.27 B.E.2542 (1999) under the Navigation in Thai Waterways Act B.E. 2456 (1913) is already in place and relevant to the London Convention.

The Marine Department acts as a lead agency for matters that relate to the London Convention.

#### *OPRC and the OPRC-HNS Protocol*

To implement OPRC, Thailand has adopted Regulations on Ship Survey no.27 B.E.2542 (1999) under the Navigation in Thai Waterways Act B.E. 2456 (1913). It also established a

national plan for oil pollution prevention and requires all public and private ports to prepare a contingency plan. Thailand strengthened regional cooperation and actively joined the ASEAN countries in oil spill preparedness and response. It is a signatory to the MOU among the Governments of Brunei Darussalam, Indonesia, Malaysia, the Philippines on the Oil Spill Response Action Plan which combats major oil spill incidents.

The Pollution Control Department (PCD) under the Ministry of Natural Resources and Environment acts as the lead agency for matters that relate to OPRC, but coordinates any issues with the Marine Department.

#### *BWM*

The BWM is not yet in force, but Thailand reports it is in the process of preparing necessary facilities and regulations. For example, the Navigation in Thai Waterways Act B.E. 2456 (1913) is the major regulation controlling ballast water, and functions as the foundation for Thailand's accession to the BWM. In addition, Thailand is currently preparing a draft Strategy and Action Plan on Ballast Water Management in Thailand and a "Control and Management of Ballast Water Programme".

The Marine Department acts as a lead agency for matters that relate to BWM. In addition the Port Authority of Thailand, the Private Port Facilities Club and the Thai Ship Owners Association share responsibilities for BWM.

#### *GPA*

No regulation in Thailand is directly derived from the GPA, but several regulations incorporate the control of land-based pollution.

The PCD has the lead role in controlling marine pollution related to the GPA, but coordinates activities closely with the Department on Marine and Coastal Resources (DMCR) under the Ministry of Natural Resources and Environment.

#### *Funding and economic instruments*

Thailand employs economic instruments for the implementation of MARPOL 73/78 by using tax incentives. Taxes are exempted for ships' waste that is discarded at facilities in Thai ports, first to reduce the owners' expenses and second, to avoid waste dumping into the sea.

### **3.2.10 Viet Nam**

Viet Nam has procedures to assess its preparedness to comply with the obligations of an MEA before ratifying it. These procedures include the authorization of the Ministry of Natural Resources and Environment (MONRE) to conduct research, survey and assess the interests and obligations of the country, to consult relevant agencies, to draft its recommendations and to submit these to the government.

Viet Nam regularly reviews the adequacy of its existing laws, regulations and policies for the fulfilment of their environmental objectives and relevant international obligations and the national situations. The process involved for the review includes mandate, research, feasibility, and recommendations conducted by the MONRE and the Ministry of Transportation.

In recent years, Viet Nam has demonstrated a strong commitment to the strengthening of the strategic, legislative and institutional context for environmental protection and management. Viet Nam approved the National Strategy for Environmental Protection. In 2004, requirements for project approvals through the Environmental Impact Assessment were

strengthened, and the Strategy for Sustainable Development (Agenda 21) was adopted. More importantly, overriding strategies of the Vietnamese Government, such as, the Strategy for Socio-Economic Development during 2001 to 2010 and the Comprehensive Poverty Reduction and Growth Strategy recognise the relations between environmental degradation and poverty and include a range of environment-related actions. In Viet Nam, a high degree of similarity is found among the priorities of the strategies. Although there is no conflicting or inconsistent priority, a lack of clear hierarchy/priority among the strategies, the issues, and the objectives is obvious and the targets (where available) are ambitious.

In Viet Nam, MONRE is the leading agency with a mandate for dealing with issues related to MEAs. Responsible agencies under MONRE at the national level include the Viet Nam Environment Protection Agency (VEPA), the Department of Environment and the Department of Environmental Impact Assessment and Appraisal. At provincial level, the Departments of Natural Resources and Environment (DONREs) and Provincial Environment Committees have similar roles in enforcing provincial regulations for environmental protection. In addition, Environmental Centres are also widely set up in the country.

The Vietnamese government has not been able to regularly attend the relevant meetings of the MEAs due to financial constraints and competing priorities. The academic experts who often attend the meetings are normally not in the position of making decisions.

#### *MARPOL 73/78*

For the effective implementation of MARPOL 73/78, the Government's Decree No. 91 was issued in 1991 and a Circular to guide the implementation of the decree was issued in 1998. Regulations on systems for prevention of marine pollution by ships (TCVN 6276:1997) and on safety of seagoing ships (TCVN 6278:1997) have also been issued. In addition, ship control has been conducted at seaports around Viet Nam as part of the Port State Control. Heavy penalties have been set for violations of the legislation on maritime safety and marine pollution prevention. Apart from the 1993 Law on Environmental Protection and the 2002 Ordinance on Handling of Administrative Violations, Viet Nam has also promulgated Decree No. 92/1999/ND-CP, 1999 on sanctions against administrative violations in the maritime domain.

The Ministry of Transportation is responsible for national coordination and administrative management for MARPOL 73/78 related issues.

#### *London Convention and the 1996 Protocol*

Viet Nam is currently not a party to the London Convention, but reports that it has the intention of joining.

#### *OPRC and the OPRC-HNS Protocol*

Viet Nam is currently not a party to the OPRC, but reports that it has the intention of joining. There is currently the "Decision of the Prime Minister on a National Plan for Oil Spills for 2001–2010" and on the "Procedures for Oil Spills". In addition, an Oil Spill Contingency Plan is being developed with financial support from USAID.

The Ministry of Transportation and MONRE share the responsibility for matters related to the OPRC. In addition, the Minister of Natural Resources and Environment set up a working group in May 2007 to function as an advisor to MONRE in order to deal with problems related to oil spills in coastal provinces. The working group is expected to identify causes, evaluate losses and compensation and to deal with the consequences of oil pollution in coastal provinces. The working group has 15 members, led by the Director General of VEPA.

## *BWM*

Viet Nam does not report on any intention of joining the Convention. The Ministry of Transportation and MONRE share the responsibility for matters related to the BWM.

## *GPA*

Viet Nam takes part in the GPA regional forums and cooperation and also attended the IGR-2 in Beijing. The Ministry of Transportation and MONRE share the responsibility for matters related to the GPA.

## *Funding and economic instruments*

Viet Nam has developed a comprehensive set of economic instruments to facilitate efficient implementation of the MEAs. Such instruments include user fees, pollution fees, subsidies, tax incentives or other measures. For MARPOL 73/78, sanctions and administrative fines are commonly used. For OPRC, the Polluter Pays Principle applies. For BWM, the administrative sanction applies based on the Decree of the Government No. (62/2006/NĐ-CP, 2006) and Decree No. 67/2003/ND-CP, 2003, on Environmental Protection Charges for Water.

## **4. Challenges**

The COBSEA countries have all encountered problems and obstacles, to different extents, while implementing the five MEAs looked upon in this review. According to the results from national questionnaire, key challenges encountered by the COBSEA member countries in the implementation of the MEAs concern the existing national legislation, policies, institutional arrangements and employment of economic instruments. Some of the challenges are common to the countries in the region. There is also a number of good practices and experiences of some countries to be shared with other countries in the region.

### **4.1 National laws and regulations**

According to the input provided through the national questionnaires, Australia, China, Republic of Korea and Singapore are the most advanced countries in the region with regard to national laws and regulations. Some of their experiences and practices would be useful to share between the other COBSEA member countries.

In general, Australia reports that the existing national laws and policies of Australia are adequate and work well for the implementation of the selected MEAs. The same can be said about the enforcement of national laws where the geographic position of Australia has some advantages (no shared country borders). However, it is also worth noting that the long coastline of Australia poses significant logistic difficulties in enforcement and there are some State and Commonwealth differences that also complicate enforcement.

Singapore reports that the existing national laws and regulations are adequate for the effective implementation and enforcement of the MEAs to which it is a party. There appears to be no weaknesses or gaps in the existing national policies or guidelines either. Furthermore, Singapore regards economic instruments as unnecessary to implement the IMO Conventions.

China and the Republic of Korea also report on the adequacy of their existing national laws, policies, regulations and action plans for the effective implementation of the five selected MEAs.

Although the Republic of Korea is satisfied with its laws and regulations for the effective implementation of MARPOL 73/78 and OPRC, it is concerned about weaknesses and gaps in the implementation of the London Convention because of the conflicts that arise between waste generation, treatment policy and dumping regulations. According to the national questionnaire, a more forceful policy for marine protection from dumping is required to enhance the implementation of the London Convention. When it comes to the implementation of the GPA, similar conflicts exist between the policies for land and ocean conservation. The need for regulations on ballast water management to be developed in a timely manner for the BWM is also reported.

In contrast to these four countries, the remaining COBSEA member countries report on a number of difficulties arising from the insufficiency of law and policy. In addition to the limited legal and institutional framework, some COBSEA member countries face considerable enforcement challenges. Overall, the enforcement capability and the awareness of the legal instruments among government officers of these countries are still at a low level. Overlapping responsibilities are also common among concerned ministries.

Cambodia, currently a party only to the MARPOL 73/78 and participating in the GPA, reports on the lack of human resources and legal instruments, ineffective enforcement and low public awareness as major issues that impede effective implementation of MEAs at the national level. In terms of the GPA, the weak enforcement of the existing laws and regulations can be partly accredited to the low level of awareness about the existing laws and regulations in the local governments and the public. The lack of sustainable financial mechanisms has resulted in the inadequacy of implementation of the existing policies and guidelines for the GPA. The lack of human and financial resources is a factor that also impedes the effective implementation of the GPA.

The existing Malaysian laws, regulations and institutional arrangements for the implementation of OPRC and Annex I of MARPOL 73/78 are reported as adequate. In particular, the Malaysian law to enforce Annex I of MARPOL 73/78 is adequately supported by the Environmental Quality Act (1974). However, major issues that impede effective implementation of the selected MEAs in Malaysia are effective employment of economic instruments for MARPOL 73/78, the lack of laws for fulfilling Annex II and V requirements and insufficient waste reception facilities at all ports. The private sector investment in waste reception facilities is reported as completely absent and the government has not yet presented any incentives to resolve this issue. The situation is better for the OPRC, however. The national oil spill contingency plan for Malaysia is put to test regularly during exercises and has worked well during actual spills.

For the GPA implementation in Malaysia, the privatization of services has helped reduce the burden on law enforcement as industry standards apply. In the case of industrial pollution, self-monitoring activities are implemented where industries are required to submit their monitoring data to the Department of Environment (DOE) on a regular basis. This has significantly reduced law enforcement pressures. The privatization of sewage services and domestic waste collection and disposal has addressed many of the previously existing gaps. Malaysia also reports on the importance to start regulating unlicensed industries that come under the purview of local authorities, since this is not currently the case. Another issue is that Malaysian laws and regulations need to be improved for the control of agricultural run-off.

Indonesia reports that it has national laws and policies in place for MARPOL 73/78. However, the major constraints and challenges that have impeded Indonesia's effective

implementation of the MEAs at the national level include the lack of understanding and awareness of all stakeholders on the laws and regulations that support the implementation of the MEAs and limited capability on the provision of evidence to support any claims or cases.

The Philippines has an existing regulation for MARPOL 73/78 regarding sewage. However the regulation is under moratorium because most of the ships in the country are old and they are not capable of having sewage treatment plants installed. Regarding the OPRC, the National Oil Spill Contingency Plan does not include the roles and responsibilities of other government agencies. While for the GPA, there is no National Action Plan to Implement the GPA, guidelines are needed to implement the relevant laws. An Integrated National Action Plan is to be formulated.

Thailand reports that its existing legal and institutional framework is not adequate for the enforcement of national laws, regulations and standards that support the implementation of the MEAs in question. Some of the main challenges include lack of support from decision-makers and insufficient budget and manpower. In addition, weaknesses and gaps exist in the existing policies and guidelines for effective implementation of MEAs. National priorities can also be an issue as the Thai Government is reported to focus its effort on economic issues rather than matters related to marine pollution. Major issues that impede Thailand's effective national implementation of the MEAs can be viewed from three aspects. First, the recent and current Thai Governments have not given much attention to the marine pollution issues and this has resulted in the lack of concrete policy on this matter. Second, much attention has been given to recovery of the country's economy, while the budget for marine environmental monitoring is very limited. Third, the enforcement responsibility is divided and shared between the Marine Department, the Navy, the Fisheries Department, the Pollution Control Department and the Police Department, causing ineffective marine protection.

The socialist political system of Viet Nam makes the situation slightly different in comparison to that of Malaysia and Thailand. This system has some advantages in terms of the state ownership of natural resources, e.g. land, mineral resources, water, and forest, making it easier for the government to implement laws and regulations. On the other hand, Viet Nam still faces many environmental problems since raw materials have free access and the absence of private ownership results in insufficient protection of resources and ineffective pollution control. In addition, under the existing administrative system, local government officials are judged entirely by the economic growth they have achieved in the district. This assessment of performance results in pollution to the environment being sometimes ignored for economic gains. Even though economic instruments have been employed in Viet Nam, the enforcement is weak due to the limited resources to enforce violation of the provisions.

The major issues that impede effective implementation of the selected MEAs in Viet Nam include the lack of financial resources and low awareness about environmental issues among decision-makers and the public. Challenges also arise from the environmental policy-making process where the problems include: weak administrative and institutional capacities; poor regulatory enforcement of a highly centralized system; lack of financial resources to support a suitable and sufficient monitoring system; a rapid rate of industrialization and capital accumulation with economic incentives for private firms to invest in integrated process technologies; urgent crises over resource use, sanitary services, and unprecedented population growth. Another obstacle exists in the Vietnamese legislative and enforcement framework: the Law on Environmental Protection, enacted in 1994, and a number of other laws, government decrees and regulations provide a general legal framework for environmental protection, however, they are not implemented in a systematic way due to the lack of

appropriate knowledge and environmental standards, coordination and consistency in implementing the various legal provisions. This is partly due to the lack of qualified staff and necessary facilities. This problem can possibly be resolved by increasing public participation in the process of policy-making, monitoring and assessment. Such participation is of crucial importance in a market-oriented economy but it is far from successful in Viet Nam. In addition, lack of information makes it difficult for government officials to make decisions, and for the public to support the efforts of governments for environmental protection.

The Vietnamese government is currently facing the challenge to revise a large number of national environmental standards and apply as many standards as possible from ISO 14000. It is equally important that environmental policy makers develop new regulations and strengthen institutional arrangements to ensure enforcement. On the economic front, a major concern for the policy makers of Viet Nam is that the transition to the Asian Free Trade Area (AFTA) does not interrupt Viet Nam's economic growth, nor break up its industrialization and modernization process.

## **4.2 Institutional structures**

As stated earlier, COBSEA member countries have all set up institutions to implement the MEAs to which they are party, but many countries face inadequacies in their institutional structures. However, the problems being encountered are different for each country.

To Australia, the major issue that impedes its effective implementation of the MEAs at the national level is the relationship between State and Territory governments and the Commonwealth Government compounded by the fact that State and Territory governments are not always of the same political party as the Commonwealth Government. In Australia, jurisdiction of state waters (three nautical miles) is with the States while the jurisdiction of water from three nautical miles to the EEZ (200 nautical miles) is with the Commonwealth.

Cambodia reports that it is facing difficulties in setting up proper institutional arrangements for the effective implementation of MARPOL 73/78 due to the lack of financial support and human resources. Cambodia also reports that the coordination mechanisms among stakeholders within Cambodia are not satisfactory for the effective implementation of MEAs. The reasons for this are overlapping activities between relevant government agencies and inadequate information sharing. For this reason, Cambodia considers it useful to develop regional guidelines/standards for implementing MEAs to assist countries to meet with their necessary obligations.

China considers that its institutional arrangements and coordination mechanisms are effective and that there is no major issue that impedes the implementation of the MEAs.

Indonesia reports on weaknesses and gaps in institutional arrangements due to the lack of coordination among the institutions involved. Moreover, coordination mechanisms among stakeholders within Indonesia are not adequate, as industries prefer working on their own projects rather than in an integrated manner.

Malaysia reports that the institutional arrangements set up in Malaysia for the MEAs in question have been tested during exercises and workshops. These have shown that the coordination mechanisms among Malaysian stakeholders are adequate for MARPOL 73/78 as only a single agency is involved. For the OPRC, existing arrangements have proven to work during actual oil spills. However, when it comes to the GPA implementation, too many levels of government agencies are involved and there is no single national programme to bring together all the components of the GPA. Activities are implemented by the DOE and local

governments, which address different components of the GPA. Currently, pollution from agricultural activities is not addressed by any government agency.

The Philippines considers that its coordination mechanisms among stakeholders are adequate for effective implementation of the five selected MEAs. The PCG is now revising the NOSCP to strengthen the coordination among stakeholders of oil spill response. The Philippines believes the existence of areas of complementarity between the MARPOL 73/78 and the BWM.

The institutional arrangements of Singapore are reported to work effectively and there is no major constraint or challenge that impedes the meeting of its obligations. Coordination mechanisms among the stakeholders within Singapore are also reported as adequate for effective implementation of the five selected MEAs. The lines of authority and responsibility among government agencies are clear, and there is no issue in Singapore pertaining to local government authorities, as it is a city-state.

Singapore regards all IMO conventions relating to the marine environment as highly technical, requiring experts who can closely monitor developments at committee meetings of the IMO. Since there are these complementarities between all the IMO conventions relating to marine pollution, Singapore has found it most efficient to have the MPA serve as the lead agency for all IMO conventions. The situation is similar in Australia where DEWR is the lead agency for all these conventions apart from the BWM, which comes under AQIS, DAFF responsibilities.

Thailand reports that the coordination mechanisms among stakeholders are not adequate for effective implementation of the MEAs.

### **4.3 Technical and financial resources**

Some of the COBSEA member countries (Australia, Singapore and China) report to have allocated sufficient funding to train their implementing personnel and to send them to participate in international meetings that can help the introduction of the latest technology and facilitate the national implementation of the MEAs.

Australia reports that it has in place all required technologies to implement the MEAs to which it is a party, and that it does not have problems related to participation in relevant meetings of MEAs, either. There is no specific area of expertise that needs strengthening to enhance the implementation of the selected MEAs.

According to its answers to the national questionnaire, Singapore has no problems related to its participation in the relevant meetings of the MEAs, and it does not need any additional expertise to enhance its MEA implementation. In addition, the MPA of Singapore has, as a party to the MARPOL 73/78 and OPRC, undertaken a series of training courses under the Singapore-IMO MOU on Third Country Training Programme (TCTP) to address marine environmental protection<sup>29</sup> One such course is the “IMO Oil Pollution, Preparedness, Response and Co-operation (OPRC) Model Training Course Level 3” that aims to allow those in charge of responding to an oil spill to understand their roles, both at the national and local levels Another training course conducted with the IMO under the IMO-ASEAN Projects was the “IMO-ASEAN Workshop on the International Convention on Oil Pollution Preparedness, Response and Co-operation and on Hazardous and Noxious Substance (OPRC-HNS)”. The key deliverables from the OPRC-HNS workshop were the adoption of a plan for

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<sup>29</sup> For details, see Annex 7: National Questionnaire of Singapore.

wider acceptance of the Convention and its Protocol by ASEAN member countries, and the formulation and development of an action plan for regional co-operation with regard to responding to pollution incidents.

China also reports to have available the technology and information necessary for the implementation of the MEAs, and China has been quite active in its participation in relevant MEA meetings. To China, no specific areas of expertise need strengthening to enhance the implementation of the MEAs. China considers the GPA and the London Convention as the most effective MEAs to the local environment. The scientific and technical information derived through these two MEAs have been helpful to assess the status of the country regarding environmental impacts. The linkage between global and national environmental problems is best addressed in the GPA and MARPOL 73/78.

From the experience of Australia, China and Singapore, there may be some valuable information to be shared with other member countries, many of which have been affected by various factors, such as, the lack of the availability of technology and information that have hindered their steps towards fulfilling the obligations required by the MEAs.

For Cambodia, a lack of necessary knowledge, technology and funding is reported as the primary causes for its inability to fully comply with the MEAs in question. As an example, the mechanisms for OPRC implementation, which Cambodia is preparing to ratify, is not yet in place due to budget constraints. For the same reason, equipment for oil spill clean-up is also not available. The specific areas of expertise needed by Cambodia in strengthening the implementation of the MEAs in question are: marine ecosystem management; marine environmental planning and policy; land-based pollution management; community waste management; and marine litter and shoreline management.

Indonesia has vast sea areas and any enforcement activities require substantive personnel, instruments and facilities. Funding for enforcement activities is currently not adequate. Indonesia has also faced difficulties in participating in the relevant meetings of MEAs, primarily because of the lack of understanding among relevant government agencies about the ongoing and upcoming MEA issues to be addressed in the negotiation process. This is particularly the case when it comes to the impact of any new obligations at regional and national levels for the GPA, the London Convention and the OPRC. Indonesia expresses the need for expertise regarding controlling systems that combine factors such as real time information, technology, network systems, and shipping/marine transportation, to enhance its implementation of the MEAs in question. Indonesia has not experienced any areas of complementarity between the MEAs in question, since it has only ratified MARPOL 73/78 and participated in the GPA. Indonesia is now facing the challenging task of preparing to be a party to the rest of the MEAs.

In the Republic of Korea, the enforcement of the legal framework is lagging behind due to a lack of training and personnel education. Conflicts regarding the use and protection of resources, such as marine, wetland and tidal flats still exist between the public and the private sector. The need for increased funding for the effective implementation, education and training for pollution combat personnel at the local level, and to increase public awareness regarding marine pollution are identified as major issues that impede the effective implementation of the selected MEAs. Furthermore, the Republic of Korea reports it needs strengthened expertise in invasive species examination and identification.

Malaysia faces difficulties in participating in relevant meetings of MEAs that it has ratified. Specific expertise is needed to enhance the implementation of the GPA and coordination is

needed in developing a cohesive national action plan. Overall, Malaysia needs expertise on the assessment of the impact of the implementation of MEAs, especially their economic impacts.

In the Philippines, technical and financial support in developing/revising new laws and regulations is needed for the effective implementation of all the MEAs, namely, MARPOL 73/78, OPRC, the London Convention, the Ballast Water Convention, the HNS Convention, and the GPA. The training of law enforcement officers, such as, customs, harbor officers, local governments, and information exchange with other countries in the region could be initiated through COBSEA. The Philippines needs support in all areas for the effective implementation of the MEAs.

Thailand did not indicate any specific area of expertise that needs strengthening in order to enhance the implementation of the five selected MEAs.

To Viet Nam, the lack of understanding of the specific issues of the MEAs made it difficult to actively participate in relevant MEA meetings. To enhance the implementation of the MEAs, Viet Nam also needs to strengthen political will and language, and have specially trained people and legal expertise.

## **5. Capacity building needs**

Following the discussions on challenges and obstacles that affect the implementation of the MEAs, this part will focus on the identification of capacity building needs of the COBSEA member countries to enable them to implement MEAs effectively.

### **5.1 National capacity building needs**

Australia has mobilized sufficient funding for MEA related capacity building activities. The funding sources mainly come from national and state government funding. Current available technologies in Australia are adequate to deal with imminent problems concerning the implementation of MEAs. Information on some of this technology could also be valuable to other COBSEA member countries.

In Cambodia, funding for capacity building activities to enhance the compliance with MEAs comes mainly from international organizations. Cambodia expressed the need for further technical and financial support to assess its preparedness to become a party to OPRC, the London Convention and BWM as well as to comply with the obligations under MARPOL 73/78. The current available technology of Cambodia is not adequate and additional support is needed to fund laboratory staff for monitoring and assessment of marine environments, equipment for pollution treatment and collection facilities and mechanisms and equipment for emergency response and clean-up. Cambodia's needs for technical and financial support are focused on the implementation of the two MEAs it is participating in, i.e. the GPA and MARPOL 73/78.

In China, national government and private funding are the main sources for capacity building activities aimed at enhancing the country's compliance with MEAs. As a party to the MARPOL 73/78, OPRC and the London Convention and a participant in the GPA, China has already undertaken some capacity building programmes and activities to address marine environmental protection. For MARPOL 73/78 and OPRC, training and a number of seminars for port authorities and shipping companies have been conducted. There have been three seminars for the development of the NPA for the GPA. MSA funds the projects on the selected IMO Conventions for training and seminars. SEPA funds the seminars on projects

for the GPA and the NPA. China has quite a comprehensive coverage of national laws and policy for the implementation of the MEAs. Nevertheless, China reports that it currently needs to develop new laws and revise regulations adopted almost two and a half decades ago for the GPA and the London Convention and that this will require both technical and financial support. China reports that its current available technology is adequate to deal with imminent problems concerning the implementation of the MEAs.

In Indonesia, funding for the implementation of capacity building programmes related to MEAs is primarily mobilized from international donors. Being a Party to MARPOL 73/78, Indonesia has conducted some short training courses and workshops for stakeholders, but the most critically needed skills for Indonesia to effectively implement any of the five MEAs include guidelines or manuals for the implementation of the MEAs, exchange programmes, and improved negotiation skills.

In the Republic of Korea, a number of capacity building activities have been undertaken to address marine environmental protection. Such seminars and trainings are mainly funded by national projects through MOMAF and MOE. However, the Republic of Korea reports that it would need technical and financial support in developing new laws for BWM and the GPA and to train law enforcement officers for these two MEAs. The Republic of Korea also expresses some needs for support in developing and training local governments on appropriate economic instruments for the London Convention and MARPOL 73/78. When it comes to available technology to support the implementation of MEAs, the Republic of Korea is in a good position compared to most other COBSEA member countries. However, the Republic of Korea still indicates that additional support is needed to improve monitoring and assessment of the marine environment, particularly the assessment of pollution in deep sea sediments of more than 200 m depth, pollution treatment facilities for heavy metals and POPs and for emergency response and clean-up of high performance oil dispersants.

As a Party to MARPOL 73/78 and OPRC, Malaysia has undertaken capacity building programmes including regional training courses for MARPOL 73/78 and tri-lateral oil spill control exercises for OPRC. Funding is mobilized through government funding and aid agencies. Priority needs for Malaysia to enhance the implementation of the five MEAs include the development of national laws regarding MARPOL 73/78 Annex II and V, increased coordination for the GPA implementation and the development of a GPA NPA. Malaysia also reports on its needs to develop and revise national policies, guidelines, strategies and action plans, strengthening institutional arrangements and training of law enforcement officers for the GPA, MARPOL 73/78 and OPRC. Malaysia conveyed the need for support in developing appropriate economic instruments for MARPOL 73/78 to facilitate the provision of waste reception facilities. Malaysia has considerable experience in the privatization of sewage and domestic waste treatment, collection and disposal and suggests information exchange through COBSEA on economic instruments with other countries in the region, especially for MARPOL 73/78, the GPA, and OPRC. When it comes to available technology, Malaysia reports that it has the available technology for monitoring and assessment of the marine environment and to deal with imminent problems concerning the implementation of MEAs. Pollution treatment facilities are adequate, but expensive in the case of sewage facilities. However, technical support on specific equipment may be needed for domestic waste management on islands.

Furthermore, Malaysia reports that it needs support in assessing existing laws and regulations, environmental conditions and the economic implications of joining an MEA during the ratification process. Malaysia would also welcome support that would lead to an

enhanced understanding of synergies and linkages between the various MEAs and to a reduced reporting burden to the many MEA secretariats.

The Philippines attends IMO sponsored seminars for MARPOL and conducted marine pollution exercises with the Republic of Indonesia for OPRC. It also attended a training course on GPA implementation. Funding is mobilized in the Philippines for capacity building activities through the General Appropriations Budget. The government has allotted a portion of its budget, but this cannot be easily released. Funding for capacity building activities in the Philippines comes from the Global Environment Facility, national government funding, and bilateral agreements on specific projects. The most critically needed skills to implement MARPOL 73/78 in the Philippines are those of the MARPOL Surveyor and Environmental Impact Assessment.

To the Philippines, the current available technology to deal with imminent problems concerning the implementation of MEAs is not adequate. Financial support is needed for the establishment of an environmental data base published in the internet and accessible to all stakeholders. Funding is also required to increase response equipment in order to respond to a Tier III level oil spill. Technical support is needed during oil spill response environmental risk assessment, and on the immediate identification of location sites for oil debris collected during oil spill responses.

The Philippines considers the most effective type of capacity building for effective participation of its delegations in the relevant meetings of the five selected MEAs include: training workshops on the emerging issues to be discussed at relevant MEAs; forum expert advice on the impact of proposed obligations at the regional and national levels; information exchange between countries in the region on the impact of proposed obligations at the regional and national levels; and regional consultation forums prior/during to the relevant meetings of MEA (COPs scientific committee meetings).

As far as Singapore is concerned, it reports to have adequate technology and all the skills required to implement the five MEAs. The MPA of Singapore has mobilized sufficient funding for capacity building activities aimed at enhancing the country's compliance with MEAs. The main funding source for capacity building activities comes from the national government. Singapore's position is unique among the COBSEA member countries. It is a small, well-developed city state. It has one of the world's busiest and most important ports and is the fifth largest ship registry in the world (and the largest in Asia). One of its national objectives is to be a leading maritime centre. Singapore also prides itself on its ability to strike an appropriate balance between environment and development and for this reason it gives MEAs on the marine environment a higher priority than most other countries. These combined factors ensure that Singapore has the required legal and technical expertise to accept and fully implement all international regulations, procedures and practices to protect the marine environment.

Funding for capacity building activities aimed at enhancing Viet Nam's compliance with the five MEAs is primarily derived from national government funding, but such funding is very limited. This is especially the case for research and compliance with MEAs for which the funding is neither adequate nor properly allocated. International and national donors and aid programmes are focusing on other issues such as water quality, poverty, sewage and measures to enhance the situation for the poor. Viet Nam expresses capacity building needs for the effective implementation of all five MEAs. Specific priority areas for capacity building identified by Viet Nam include technical and financial support in developing new laws and revising existing legislation for MARPOL 73/78, OPRC, the London Convention,

BWM and the GPA and the training of law enforcement officers for these four MEAs. Support in developing and training local governments on the use of economic instruments is needed primarily for the GPA, BWM and MARPOL 73/78.

## **5.2 Regional cooperation**

Australia and China believe that regional cooperation is necessary while the remaining COBSEA countries think that regional cooperation should be enhanced.

Among the COBSEA member countries, Australia, China, the Philippines, and Singapore do not recommend developing regional guidelines for implementing MEAs. Singapore does not consider it useful to develop regional guidelines or standards because the regulations and standards developed under IMO conventions are, by their nature, international, and there is no scope for the separate development of national or regional standards. Australia believes that cooperation between countries in setting compatible guidelines would be very useful. Signatories to the various agreements usually have their own guidelines which can be adapted for those countries that do not have national guidelines. This is particularly important among COBSEA member countries as they face similar problems. Malaysia supports the development of regional guidelines to assist countries to implement MEAs and to meet with their necessary obligations, but draws attention to existing guidelines produced by IMO and the GPA for MEA implementation.

The Philippines does not recommend developing regional guidelines for implementing MEAs, as this would duplicate the work being carried out by the International Maritime Organization. However, it believes that COBSEA, as a regional organization, can best facilitate the countries' implementation of the MEAs in the areas including: organizing training workshops and/or consultation forums prior to Conference of the Parties (COPs) or other relevant intergovernmental meetings; providing technical support regarding required technologies or improved monitoring and assessment to meet commitments and obligations under conventions or producing national reports; increasing information exchange on lesson learned and experiences in implementing obligations or commitments; developing regional guidelines for meeting with obligations or commitments.

Complementalities in the obligations of these MEAs exist, and capacity building activities are needed that could provide clear understanding of the obligations, roles and functions of each agency involved in the implementation of the MEAS to avoid the overlapping of functions.

One of the problems the Philippines encountered in the implementation of MEAS is the information exchange between different agencies among the national focal points. Thus, capacity building is needed to strengthen the coordination and information sharing among agencies.

All countries seem to agree that increased information exchange between the COBSEA member countries on different aspects of MEA implementation would be beneficial. China reports that it would welcome information exchange on policies, guidelines, strategies and action plans specifically related to the GPA and OPRC. The Republic of Korea would welcome information exchange on economic instruments. Malaysia believes that information exchange is primarily needed for the implementation of the GPA, MARPOL 73/78 and OPRC and states that COBSEA can facilitate increasing information exchange on lessons learned and experiences in implementing obligations or commitments. Viet Nam would welcome such information exchange for all five MEAs.

Cambodia, Indonesia, Malaysia and Viet Nam would find training workshops on emerging issues to be discussed at upcoming MEA fora as the most effective capacity building activity to enhance country participation in relevant MEA meetings. This is also where COBSEA could play an important part. Meanwhile, China considers that the most effective capacity building activities would be expert advice on the impact of proposed obligations at the regional and national levels.

Australia suggests that the most effective type of capacity building for effective participation in the relevant MEA meetings would be a very structured workshop explaining the various MEAs, how they would benefit member countries and ways to implement them. Such a workshop should be followed by countries clearly defining their commitments with regard to the different MEAs.

## 6. Conclusions

### 6.1 National MEA Implementation

Table 4 below provides a summary of the membership status of the COBSEA member countries to the five selected MEAs (including the six annexes of MARPOL 73/78 and two protocols). In addition to membership, Table 4 also provides information on each country's intention to become a party to an MEA.

**Table 4: Summary of MEA membership of COBSEA member countries**

Country	MARPOL 73/78 and its six annexes	London Convention/ 1996 Protocol	OPRC/ HNS Protocol	BWM	GPA*
Australia	√, (Annex I-VI)	√/√	√/√	□	√
Cambodia	√, (Annex I-V)	×	□	×	√
People's Republic of China	√, (Annex I-VI)	√/√	√	□	√
Indonesia	√, (Annex I-II)	□	□	□	√
Republic of Korea	√, (Annex I-VI)	√	√	□	√
Malaysia	√, (Annex I-II and V)	□	√	□	√
Philippines	√, (Annex I-VI)	√	√/x	x	√
Singapore	√, (Annex I-VI)	□	√/√	□	×
Thailand	√, (Annex I-II)	×	√	□	√
Viet Nam	√, (Annex I-II)	□	□	×	×

Note: "√" = Party, "□" = intends to become a Party; "×" = no indication to be a Party.

\*Countries that were represented at the Washington Conference in 1995 are considered GPA members

Of the COBSEA member countries that have ratified MEAs, all have national procedures in place to assess their preparedness to comply with the obligations of the MEAs before ratifying them. However, the extent of these procedures varies from country to country. Some countries, such as Singapore and Australia, have a very strict legal process and

comprehensive approaches to examine various aspects of the concerned MEAs and to determine the national compliance capability. According to the responses regarding national compliance/implementation plans, all the COBSEA member countries have national legislation and action plans related to the implementation of the MEAs.

Most COBSEA member countries review their laws and regulations during the ratification process. Some countries do regular or periodical reviews of their laws and regulations after they have become parties, while others, like China, review their laws and regulations when problems arise. All COBSEA member countries have also adopted national programmes and projects to implement the MEAs to which they are parties.

Adequate institutional arrangements are critical for the effective implementation of MEAs. All COBSEA member countries have authorized at least one, but more often, more than one, lead agency and competent authority to deal with issues related to each of the MEAs. In all countries, the GPA falls under the responsibility of environment ministries or environment departments while almost all IMO Conventions fall under marine transport related organizations. However, in some cases, the London Convention falls under the responsibility of environment ministries or departments.

The majority, if not all, of the COBSEA member countries have set up committees, working groups, or task forces etc. responsible for specific issues related to the MEAs. Countries tend to divide the functions and responsibilities between two or more agencies for the implementation of a particular MEA, or some particular areas of marine environmental protection. Such cooperative institutional arrangements have been put together through national legislation taking into consideration their respective circumstances.

Some of the COBSEA member countries have taken measures to facilitate efficient implementation of the MEAs through economic instruments. Such economic instruments include user fees, pollution fees, subsidies, tax incentives or other measures. However, Singapore reports that it does not employ such measures and that it considers that the MEAs are technical conventions, which are not conducive to the use of economic instruments. China and the Republic of Korea have adopted a similar approach in the employment of economic instruments to facilitate the implementation of the MEAs, such as, pollution fees for the implementation of MARPOL 73/78 and OPRC, a dumping fee for the London Convention, and pollution discharge fees for the GPA. The Polluter Pays Principle has also been adopted in both countries.

Based on the information provided through the national questionnaires on public awareness, there are generally low levels of awareness and limited understanding on environmental issues among the public in most of the COBSEA member countries. Information is generally not available to the public and education programmes on public awareness or information dissemination on MEAs for stakeholders is limited. There is only general understanding of the issues addressed in the selected MEAs among government officials, researchers and lecturers. Indonesia reports on efforts to improve public awareness in shipping communities (for MARPOL 73/78) and a programme to increase public awareness for the GPA. Thailand and Viet Nam also mention that the general public does not have a good understanding of the issues addressed in the MEAs. In Thailand, public awareness and education programmes mostly consist of meetings between government agencies and the private sector. The Vietnamese response to the questionnaire raises the concern that the public focuses more on short term concerns such as poverty, water quality etc and that, even though there are regular television/radio programmes, and publications to improve the public awareness on MEAs, the environmental requirements and significance are not well understood. A response to the

Singaporean questionnaire states that the details of the IMO Conventions are highly technical and of interest only to the shipping and, in some cases, the sea-farer communities, but that the general public is aware that Singapore has strict laws controlling pollution of the sea, and it is likely to report any incidents where ships illegally discharge oil, garbage, etc.

However, all COBSEA member countries involve stakeholders in the MEA process at different levels. When deciding whether or not to become a party to an MEA, and during MEA implementation, public hearings, meetings and seminars with government and non-governmental organizations are organized. The only exception is Malaysia, which seems to have no set procedures in place for stakeholder involvement and, instead, determines the suitable level of stakeholder involvement on a case-by-case basis.

Regarding the expertise needed in the implementation of the MEAs, some of the COBSEA member countries are in a better position than others. Singapore, Australia, China, and the Republic of Korea reported to have the necessary expertise in implementing MEAs in place, whereas the remaining countries indicated limited expertise in some of the relevant areas. Some national agencies have a strong experience and expertise in the areas related to marine pollution prevention. AMSA and AQIS of Australia, MSA and the Shipping Research Institute of China and MOMAF of the Republic of Korea all have extensive experience to share in the areas related to MARPOL 73/78, the London Convention, OPRC and BWM implementation. In addition, experts from the China Environmental Sciences Academy and from the Department of Environment and Water Resources of Australia (now DEWHA) have a lot of experience with GPA implementation.

Active national involvement in MEA-related meetings is important to ensure effective implementation of the MEAs. The COBSEA member countries have shown different levels of involvement and frequency in participation in MEA-related meetings. Australia, Singapore and China very actively participate in relevant meetings. Australia and Singapore have also conducted national workshops and training courses to enhance the implementation of MEAs. Other countries, such as Malaysia and Viet Nam, have reported that they are not able to attend meetings as often as they would like due to various reasons, such as, the lack of financial capacity and political will.

## **6.2 Challenges**

In general, it can be concluded that weaknesses and gaps for effective implementation of the five MEAs exist in the areas of legislation and policy, institutional arrangements; enforcement of existing laws and regulations, public awareness (including that of governments) regarding existing laws and regulations, financial support, technology and human resources, gaps between national and global implementation mechanisms and understanding of MEA obligations at the national level. Greater attention needs to be given to the harmonization of national reporting systems among MEAs.

The institutional arrangements for implementation of the MEAs vary from country to country. In general, there appear to be two models. The “centralized model” is represented by Singapore and the Republic of Korea. In these countries, the implementation of the five MEAs is the responsibility of either a leading government agency or an overarching national committee established to incorporate the relevant agencies that are sharing the implementation responsibilities. The obvious advantage of this model is that it may be helpful in avoiding overlapping responsibilities and implementation gaps in existing laws and institutional arrangements. The “decentralized model” is typically reflected in the institutional structure of Australia, China and other COBSEA member countries. These

countries usually have a few government agencies sharing the responsibilities for implementing the five MEAs.

However, it is hard to say which model works better based on the limited information from the national questionnaires. The countries that are using the centralized model seem to face fewer challenges in the implementation of the MEAs with adequate funding allocated to support operational activities at the national level. Of the countries that have adopted the decentralized model, Australia and China have also achieved effective arrangements, but a number of the COBSEA member countries using the decentralized model report on conflicting priorities within and among the agencies concerned. Cambodia, Malaysia and Thailand all expressed their concerns regarding coordination mechanisms for the effective implementation of the MEAs.

Most of the COBSEA member countries, apart from Singapore, have attempted to establish economic instruments to support the implementation of the MEAs in question. The best example of this is Australia where economic instruments have been applied to enforce penalties for the violation of different MEAs, and provide avenues for obtaining funds to control various sources of pollution. The Republic of Korea, Thailand and Malaysia have also implemented some economic instruments that appear effective and sufficient to facilitate the implementation of the MEAs. As an example, Thailand uses exempting taxes for ships that enter Thai ports to avoid dumping of waste at sea.

Limited human resources and insufficient financial support are the primary obstacles to the effective implementation of the MEAs among the COBSEA member countries. The Republic of Korea reports that funding, education and training of local personnel and public awareness are the major issues that impede effective MEA implementation. Indonesia is facing the challenges of enforcing relevant legislation in a geographically vast sea area and the demands on funding, personnel, instruments and facilities this requires. Many developing countries feel strongly that inadequate funding hampers the effective implementation of the MEAs and national action plans. This includes an inability or difficulty in accessing funding sources like the GEF.

Inadequate funding for some conventions was perceived as a major obstacle for instituting effective compliance and enforcement mechanisms. Examples of successful compliance and enforcement need to be identified and shared between the COBSEA member countries, including analysis of the key operational skills that led to the success. However, responses to the national questionnaires indicate that there are few examples of overall effective enforcement of the existing national laws and regulations. Constraints and challenges vary from country to country, but are more often associated with limited resources. Even the Republic of Korea considers its enforcement as lagging due to the lack of training and education of personnel. This is one of the crucial issues to be addressed in the future to promote the effective implementation of the MEAs.

Table 5 provides a summary of the strengths and weaknesses of national arrangements for implementation of the five selected MEAs.

**Table 5: Strengths and weaknesses of national arrangements for MEA implementation**

<b>Countries</b>	<b>Existing laws, policies/plans</b>	<b>Institutional arrangements</b>	<b>Other issues</b>
Australia	<ul style="list-style-type: none"> <li>- Adequate national law/policy</li> <li>- Effective enforcement with minor logistic problems due to long coastline, differences between federal and state legislation</li> <li>- Setting benchmarks consistent with MEAs to facilitate compliance monitoring</li> <li>- Regular review of laws, regulations and policies to assess fulfilment of environmental objectives</li> </ul>	<ul style="list-style-type: none"> <li>- Effective cooperation within governmental agencies</li> <li>- Federal Level Committee</li> <li>- State and Territory co-operation</li> <li>- Many private sector organizations</li> </ul>	<ul style="list-style-type: none"> <li>- Efficient stakeholder involvement through NIA</li> <li>- Effective economic instruments</li> <li>- Sufficient funding</li> <li>- Successful education &amp; training</li> <li>- Active participation in MEA meetings</li> <li>- Sufficient technology &amp; expertise</li> <li>- Efficient information flow</li> </ul>
Cambodia	<ul style="list-style-type: none"> <li>- Inadequate laws</li> <li>- Weak enforcement</li> <li>- Lack of policies and action plans on the GPA</li> </ul>	<ul style="list-style-type: none"> <li>- Several agencies share implementing responsibilities resulting in overlaps</li> <li>- Low level of information exchange</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of financial and human resources</li> <li>- Low public awareness in the local government and the public</li> <li>- Lack of scientific/technical knowledge on environmental impacts of MEAs and on linkages between global and national environmental problems</li> </ul>
People's Republic of China	<ul style="list-style-type: none"> <li>- Regulations for the GPA</li> <li>- National programmes &amp; compliance plans</li> </ul>	<ul style="list-style-type: none"> <li>- Multi-agencies share implementing responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>- Efficient stakeholder involvement</li> <li>- Participation in MEA meetings</li> <li>- No economic instruments implemented yet</li> <li>- Lack of scientific/technical knowledge on environmental impacts of MEAs and on linkages between global and national environmental problems</li> </ul>
Indonesia	<ul style="list-style-type: none"> <li>- Adequate laws/regulations for MARPOL</li> <li>- Enforcement difficulties</li> <li>- Compliance/implementation plan on MARPOL 73/78 in place</li> <li>- GPA policy in place</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Several agencies share implementing responsibilities</li> <li>- Lack of coordination among national institutions</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- No Economic instruments for MARPOL</li> <li>- Lack of scientific/technical knowledge on environmental impacts of MEAs and on linkages between global and national environmental problems</li> <li>- Lack of understanding and awareness among all stakeholders</li> </ul>
Republic of Korea	<ul style="list-style-type: none"> <li>- Adequate national law</li> <li>- Regular revision of existing laws/regulations</li> <li>- Frequent research on laws reformation</li> <li>- Effective enforcement</li> <li>- London Convention: Conflict between waste</li> </ul>	<ul style="list-style-type: none"> <li>- MOMAF plays leading role implementing/coordinating all MEAs</li> <li>- Inter-ministerial/ departmental committees</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Efficient stakeholder involvement</li> <li>- Effective economic instruments</li> <li>- Active participation in MEA meetings</li> <li>- Lack of public awareness on marine pollution issues</li> </ul>

<b>Countries</b>	<b>Existing laws, policies/plans</b>	<b>Institutional arrangements</b>	<b>Other issues</b>
	<ul style="list-style-type: none"> <li>generation, treatment policy and dumping regulations</li> <li>- GPA: Conflict between land conservation policy and ocean conservation policy</li> <li>- Lack of effective policies/regulations with respect to the London Convention/BWM/the GPA</li> </ul>		<ul style="list-style-type: none"> <li>- Lack of training and education of personnel</li> <li>- Lack of major funding sources for effective implementation</li> </ul>
Malaysia	<ul style="list-style-type: none"> <li>- Except OPRC, no specific compliance/implementation plans in place</li> <li>- Laws/regulations on OPRC and MARPOL (Annex 1) in place, but not for Annex II and V</li> <li>- No single national programme to implement all components of the GPA</li> <li>- For the GPA, laws and regulations need to be enhanced for the control of agriculture run-off</li> <li>- Weak enforcement</li> </ul>	<ul style="list-style-type: none"> <li>- Several-agencies sharing implementing responsibilities</li> <li>- Inadequate coordination mechanisms for implementing the GPA</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of human resources and financial mechanisms</li> <li>- Low public awareness</li> <li>- Lack of waste reception facilities</li> <li>- Lack of economic instruments</li> <li>- Lack of scientific/technical knowledge on environmental impacts of MEAs and on linkages between global and national environmental problems</li> <li>- Lack of an assessment on the impact of the implementation of MEAs, focusing on economic impacts</li> </ul>
Philippines	<ul style="list-style-type: none"> <li>- The only existing regulation for MARPOL 73/78 regarding sewage is under moratorium</li> <li>- For OPRC: the National Oil Spill Contingency Plan does not include the roles and responsibilities of other government agencies</li> <li>- For the GPA, an Integrated National Action Plan needs to be formulated</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate information exchange among national focal points</li> </ul>	<ul style="list-style-type: none"> <li>- Limited personnel and resources</li> <li>- Political interventions</li> <li>- Overlapping of functions</li> </ul>
Singapore	<ul style="list-style-type: none"> <li>- Adequate national laws/policies</li> <li>- Efficient system to maintain the adequacy of laws with regular review of laws</li> <li>- Effective enforcement</li> </ul>	<ul style="list-style-type: none"> <li>- Efficient cooperation within government agencies</li> <li>- MPA: lead agency for all matters</li> <li>- MEWR: lead agency for all matters relating to land territory pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Efficient stakeholder involvement</li> <li>- No economic instruments</li> <li>- Sufficient funding</li> <li>- Successful training &amp; expertise</li> <li>- Active participation in IMO Conventions but not the GPA</li> <li>- Satisfactory information flow</li> </ul>
Thailand	<ul style="list-style-type: none"> <li>- Inadequate laws &amp; weak enforcement</li> <li>- No national policy/plan for specific MEAs</li> </ul>	<ul style="list-style-type: none"> <li>- Several agencies share implementing responsibilities</li> <li>- Inadequate coordination mechanisms</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of political will</li> <li>- Application of economic instrument</li> </ul>

<b>Countries</b>	<b>Existing laws, policies/plans</b>	<b>Institutional arrangements</b>	<b>Other issues</b>
Viet Nam	<ul style="list-style-type: none"> <li>- Inadequate laws (revising large number of national environmental standards)</li> <li>- Weak legislative and enforcement framework</li> <li>- No national policy/plan for specific MEAs</li> </ul>	<ul style="list-style-type: none"> <li>- Several-agencies share implementing responsibilities</li> <li>- Weak administrative and institutional capacities</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of financial support and human resources.</li> <li>- Low level of awareness (government &amp; public )</li> <li>- Weak enforcement of economic instruments</li> <li>- Lack of scientific/technical knowledge on environmental impacts of MEAs and on linkages between global and national environmental problems</li> <li>- Lack of political will</li> </ul>

### **6.3 Capacity building needs**

Many COBSEA member countries have provided input regarding their capacity building needs through the national questionnaire.

The majority of countries have mobilized funding for capacity building activities aimed at enhancing their compliance with MEAs. For many of the countries such funding is being derived from the national government budget, while some are heavily dependent on donor support, such as, GEF and multilateral development banks. Donor funding has been useful to these countries to promote their compliance with MEAs, but the sustainability of such funding was frequently a concern.

The most critical needs to effectively implement the five selected MEAs vary between the COBSEA members. Table 6 describes the priority MEAs and priority areas for capacity building for each of the countries. Apart from Australia and Singapore, all countries of the region expressed some interest in support for capacity building.

The adequacy of available technology is essential to deal with imminent problems concerning the implementation of MEAs. About half of the COBSEA member countries are confident on their technology, while the rest indicate that support would be beneficial. Technological support is especially in demand when dealing with monitoring and assessment, pollution treatment, waste collection and emergency response and clean-up.

Australia and China consider that regional cooperation is necessary while the rest of the COBSEA member countries report that regional cooperation needs to be strengthened.

According to the results of the majority of the national questionnaires, most countries would like to see COBSEA facilitate the implementation of MEAs at national levels. The majority of countries listed the organization of training workshops and/or consultation forums and increased information exchange between countries on lessons learned in implementing obligations and commitments as the most suitable areas where COBSEA could play an important role. Some countries also place high priority on the provision of technical support for required technologies or monitoring and assessment to meet with commitments and obligations under conventions or for producing national reports.

Different views were reflected regarding the necessity to develop regional guidelines/standards to assist countries to meet with required MEA obligations. Australia, China and Singapore did not advocate the development of regional guidelines due to the technical nature of the MEAs themselves. In some cases, there are already existing guidelines at the international level. However, Australia suggested that existing national guidelines in the region could be shared and adapted for those countries that do not have any national guidelines yet. The rest of the COBSEA member countries welcome the development of regional guidelines to facilitate the implementation of the MEAs.

**Table 6: Capacity building needs of COBSEA member countries**

<b>Country</b>	<b>Priority MEAs (order of priority)</b>	<b>Types of capacity building needs at national level</b>	<b>Recommended capacity building activities at regional level</b>
Australia	BWM (To be ratified)	N/A	- Workshop explaining the benefits of various MEAs to each member country and the procedure for implementation
Cambodia	GPA MARPOL 73/78	<ul style="list-style-type: none"> <li>- Technical and financial support for the development and implementation of national laws, policies and plans</li> <li>- Technology transfer and support to carry out monitoring, treatment and response activities</li> <li>- Training of law enforcement officers and local governments to enhance MEA implementation</li> <li>- Enhance national information flow through information sharing among different agencies</li> <li>- Adequate laboratory staff and equipment for monitoring, pollution treatment facilities, waste collection facilities and emergency response and clean-up</li> </ul>	<ul style="list-style-type: none"> <li>- Information exchange and sharing of knowledge at regional level</li> <li>- Organization of training workshops</li> <li>- Expert advice</li> </ul>
People's Republic of China	GPA OPRC London Convention	<ul style="list-style-type: none"> <li>- Technical and financial support for development and revision of laws and regulations</li> <li>- Training of local governments on the implementation of policies, guidelines, strategies and action plans</li> </ul>	<ul style="list-style-type: none"> <li>- Expert advice</li> <li>- Training workshops</li> <li>- Information exchange at regional level</li> </ul>
Indonesia	MARPOL 73/78 GPA London Convention (To be ratified) BWM (To be ratified) OPRC (To be ratified)	<ul style="list-style-type: none"> <li>- Technical and financial support for development and implementation of national laws, policies and plans</li> <li>- Training of law enforcement officers and local governments to enhance MEA implementation and development of economic instruments</li> <li>- Financial support to address the needs for substantive staffing and equipment to oversee Indonesia's large marine area</li> <li>- Technical support to improve monitoring and national reporting</li> </ul>	<ul style="list-style-type: none"> <li>- Development of guidelines and manuals</li> <li>- Training workshops and consultation forums prior to COPs or other relevant meetings</li> <li>- Information exchange at regional level</li> </ul>
Republic of Korea	BWM (To be ratified) GPA	<ul style="list-style-type: none"> <li>- Technical and financial support for development and implementation of national laws, policies and plans</li> <li>- Training of law enforcement officers and local governments to</li> </ul>	- Regional consultation forums, expert advice and training to enhance effective participation in regional MEA meetings

Country	Priority MEAs (order of priority)	Types of capacity building needs at national level	Recommended capacity building activities at regional level
		enhance MEA implementation and to develop economic instruments - Technical support in monitoring deep sea sediments, pollution treatment of heavy metals and POPs and emergency response and clean-up of high performance oil dispersants	- Information exchange
Malaysia	GPA MARPOL 73/78 OPRC	- Assessment and development of national laws (development, especially MARPOL, Annexes II and V) - Coordination and development of the GPA NPA - Technical and financial support with respect to laws, policies and action plans - Training of law enforcement officers and local governments to enhance MEA implementation - Technical and financial support to facilitate provision of waste reception facilities under MARPOL 73/78 - Assessment of preparedness and economic implications of ratifying MEAs	- Provision of technical support to improve monitoring and national reporting - Training workshops on emerging issues, expert advice to enhance effectiveness of participation in MEA meetings - Information exchange - Development of regional guidelines
Philippines	MARPOL 73/78 OPRC London Convention BWM (To be ratified) HNS Convention (To be ratified) GPA	- Financial support for the establishment of an environmental data base published in the internet that can be accessed by all stakeholders, and to increase the existing number of response equipment in order to respond to a Tier III level of oil spill - Technical support during oil spill response environmental risk assessment, and on the immediate identification of location sites for oil debris collected during oil spill response	- Organizing training workshops and/or consultation forums - Providing technical support for required technologies or improved monitoring and assessment to meet with commitments and obligations under conventions or producing national reports; - Increasing information exchange on lessons learned and experiences in implementing obligations or commitments; - Developing of regional guidelines for meeting with obligations or commitments - Providing clear cut understanding of the obligations, roles and functions of each agency involved in the implementation of MEAS to avoid overlapping of functions. - Strengthen the coordination and information sharing among agencies to improve information

Country	Priority MEAs (order of priority)	Types of capacity building needs at national level	Recommended capacity building activities at regional level
			exchange among different agencies between the national focal points
Singapore	London Convention (To be ratified) BWM (To be ratified)	N/A	N/A
Thailand	no indication	no indication	no indication
Viet Nam	MARPOL 73/78 OPRC (To be ratified) London Convention (To be ratified) BWM (To be ratified) GPA (Preparing to join)	- Technical and financial support in developing and revising laws and regulations and developing appropriate economic instruments - Training of law enforcement officers - Establish coordination mechanisms to effectively implement and coordinate MEAs - Technical and financial support to improve monitoring, pollution treatment facilities, port waste reception facilities and emergency response and clean-up - Assessment of preparedness and impacts of ratifying MEAs	- Expert advice on the impact of proposed obligations - Information exchange among COBSEA member countries - Development of regional guidelines - Regional training workshops and consultation forums prior to relevant MEA meetings

## 6.4 Summary

The information in this regional review is based on the feedback received through the national questionnaires distributed to COBSEA member countries. It provides information on the general status in the COBSEA member countries with regard to their implementation of the five MEAs, viz., MARPOL 73/78, London Convention, OPRC, BWM and the GPA, the key challenges faced during MEA implementation and the capacity building needs to enhance the implementation of these MEAs. This review could guide COBSEA in designing and conducting capacity building activities at the regional level and also stimulate further action by countries in enhancing their implementation of the MEAs at the national level. However, it is not intended to provide specific recommendations for each individual COBSEA member country.

In general, marine pollution related MEAs are important for all COBSEA member countries for various reasons. Australia has extensive marine areas with unique ecosystems and biodiversity. Singapore is a small city state with a large and financially important shipping industry. Indonesia and the Philippines are archipelagic states with vast marine areas. Thailand, Malaysia and Viet Nam have extensive coastlines and marine areas. While, Cambodia has a relatively short coastline, it can also experience transboundary pollution from its neighbours. Furthermore, Cambodia is in the process of rapid economic development and currently faces significant challenges in managing its marine pollution.

Based on the outcomes of this review, it can be generally concluded that:

- All COBSEA member countries are parties to MARPOL 73/78 and its Annex I and II, but few are parties to the voluntary annexes.
- Seven countries intend to ratify the BWM, the only convention not yet in force, or are already in the process of doing so. Most of these countries have expressed the need for support during the ratification process of BWM.
- Several countries are parties only to a selected few of the five MEAs. In most cases, these are also countries with extensive and economically important sea areas (Indonesia, Philippines, Thailand and Viet Nam). However, most of these countries report their intention of joining the remaining MEAs and request the need for support to do so. They are at various stages of preparing their national ratification process for one or more of the conventions.
- Cambodia, which is the least developed country in the region, has also a short coastline and a small marine area. In consequence, Cambodia is a little behind the other COBSEA member countries in implementing MEA obligations. However, it is likely that further development of its coastal and marine areas will call for the effective implementation of MARPOL 73/78 and the GPA and its participation in the London Convention, OPRC and BWM.
- All the countries have set procedures in place to ratify or accede to the MEAs, but these procedures vary from country to country. Australia and Singapore have very strict and comprehensive ratification processes.
- Every country has stakeholders participation in the ratification/accession and the implementation process. Most countries have set procedures in place for stakeholder involvement.

- All countries have laws and regulations to implement the MEAs to which they are parties, but several countries expressed the need for support to develop new laws and regulations and/or to revise existing laws related to the five selected MEAs.
- Enforcement of existing laws and regulations seem to be an issue of concern to all COBSEA member countries, except Australia and Singapore. This is an area that needs strengthening in order to enhance the implementation of the five MEAs. The challenges to achieve effective enforcement are often of a financial and technical nature, as well as due to the lack of skilled personnel or adequate equipment.
- Needs to enhance public awareness and education was mentioned by all countries, although the priority areas differ from country to country.
- COBSEA, as a regional intergovernmental body, could provide an appropriate forum for capacity building activities at the regional level through activities such as training workshops and regional consultation forums, information exchange between countries in terms of lessons learned and best practices, technical advice on monitoring and assessment of marine environment and through the identification of emerging issues.

In general, there are considerable capacity building needs in most countries, both during the preparation process to become a party to an MEA and during its implementation. All countries are currently parties to MARPOL 73/78 and its Annex I and II, but they still express the need for capacity building for implementation and ratification of the voluntary Annexes. Since most countries intend to join BWM, or are already in the process of ratifying, many have expressed the need for support in terms of reviewing and developing adequate national legislation and technical support.

The differences between the COBSEA member countries in terms of their capacity to implement the five selected MEAs, presents opportunities for the more developed countries to assist those that are less developed and that face more challenges. Most countries consider the organization of regional training workshops and the facilitation of information exchange between countries as being useful.

Australia and Singapore have great capacity in understanding and implementing all five MEAs. More importantly, both countries indicate their willingness to share their experiences with other COBSEA member countries.

With regard to capacity building of the IMO conventions, COBSEA should consider Singapore as a possible resource and training center for the region. Singapore has the necessary technical and legal expertise, and it also has an MOU with the IMO on capacity building.

Singapore is also in a position to assist in capacity building in certain areas governed by the GPA. It has world-class expertise in solid waste, chemical and hazardous waste management and water treatment. It would also be able to assist other COBSEA countries implement conventions such as the Stockholm and Rotterdam conventions.