INTERNATIONAL MARITIME ORGANIZATION

IMO

SOUTH ASIA CO-OPERATIVE ENVIRONMENT PROGRAMME

SACEP

UNITED NATIONS ENVIRONMENT PROGRAMME

UNEP

REPORT OF THE REGIONAL WORKSHOP ON RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78 IN THE SOUTH ASIA REGION

Colombo, Sri Lanka

21-25 August 2000

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SEMINAR ORGANIZER'S NAME:	AGENCY:
Mr. Jens H. Koefoed	International Maritime Organization/South Asia Co-operative Environment Programme/United Nations Environment Programme

TITLE:

REGIONAL WORKSHOP ON RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78 IN THE SOUTH ASIA REGION

PROJECT SITE:	DURATION:
Colombo, Sri Lanka	21-25 August 2000

NOTE: The views expressed in this report are those of the author and are not attributable in any way to the United Nations or the International Maritime Organization.

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Signature of organizer:
J.H. Koefoed
Implementation Officer
Marine Environment Division
International Maritime Organization

Date: 22 October 2001

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BACKGROUND

Ratification and implementation of MARPOL 73/78 is the most important vehicle towards achieving a better marine environment and avoiding the threat of marine pollution from ships. It is therefore crucial that States ratify and implement MARPOL 73/78 in accordance with their capacity.

Although Pakistan and Sri Lanka have ratified Annexes I, II, III, IV and V of MARPOL 73/78, and India and Myanmar have ratified Annexes I and II of the Convention, Bangladesh and the Maldives have not yet ratified any of the MARPOL Annexes. Annexes I, II, IV, V and VI of MARPOL require the government of each party to the Convention to ensure that port reception facilities for dirty ballast water, waste oil, noxious liquid substances, sewage, garbage and ozone depleting substances are provided when these substances are removed from ships. The lack of reception facilities is one of the main stumbling blocks in the ratification and implementation of MARPOL 73/78 and needs to be addressed at the regional level.

ORGANIZATION OF THE WORKSHOP

The Workshop was organized by the International Maritime Organization in co-operation with the South Asia Co-operative Environment Programme (SACEP) and funding from the United Nations Environment Programme (UNEP). The Maritime and Port Authority of Singapore (MPA) provided technical support.

The venue for the Workshop was the Hotel Intercontinental in Colombo, Sri Lanka.

Participants from Bangladesh, India, Maldives, Myanmar, Pakistan and Sri Lanka attended the Workshop. The list of participants is attached at Annex 1.

In addition to two IMO consultants, Mr. Trgyve Meyer (Norway) and Mr.Hiran Soysa (Sri Lanka), Mr. Zafrul Alam (Singapore) participated as a resource person, under the IMO Singapore MOU on technical co-operation.

A copy of the Agenda is attached at Annex 2.

Two sets of Working Groups were established.

The first set of Working Groups covered sessions 1, 2 and 3. Participation was based on countries: one Working Group per country. The Groups discussed their individual national profiles with the aim of adjusting and correcting the profiles, and developing plans for ratification of the Convention and enhancement of implementation, and establishment of adequate reception facilities. The discussions were based on the draft country profiles and proposals for national/regional action plans, provided by the IMO consultant.

The second set of Working Groups covered sessions 4 and 5. All countries participated in the Working Groups in these sessions. The discussion centred on joint conclusions regarding future regional co-operation. The results of these deliberations are set out in the concluding part of this report under the heading "Future co-operation in the South Asia region".

SESSION 1: OPENING SESSION

Dr. A.R. Joshi, Secretary of SACEP, in his introduction, emphasized the importance of the continued co-operation on environmental matters in the region. He stated that the overall objective of the Workshop was to discuss:

- the status of South Asian port reception facilities;
- ratification and implementation of MARPOL 73/78;
- an Action Plan for the provision/enhancement of port repetition facilities;
- waste management programmes;
- the identification of Priority Issues relating to legislation, administration, infrastructure; and
  debatable
- development of support services and human resources.

The full text of Dr. Joshi's Opening Statement is attached at Annex 3.

The IMO representative, Mr. Jens H. Koefoed, emphasized the importance of broader ratification and of thorough implementation of MARPOL 73/78 in the region as a major vehicle towards reducing marine pollution from ships. The full text appears in Annex 4.

Mr Zafrul Alam of MPA Singapore underlined the importance of improved ratification and implementation of MARPOL in the region and added that it is difficult to achieve the full benefit of improvements if they are not carried out across the board. The full statement is shown in Annex 5.

SESSION 2: STATUS REGARDING RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78

Mr. Koefoed discussed ratification and implementation of MARPOL 73/78 in general terms, based on the appropriate chapters of MARPOL - How to do it.

Mr. Trygve Meyer presented the findings of his missions to the six countries regarding the status of ratification and implementation of MARPOL 73/78 in the region, pointing out that India and Myanmar have ratified MARPOL 73/78, with the exception of Annexes III, IV and V; Pakistan and Sri Lanka have ratified MARPOL 73/78 Annexes I, II, III, IV and V; whilst Bangladesh and the Maldives have not yet ratified any of the Annexes to MARPOL 73/78.

Plenary discussion

The participant from Bangladesh informed the Workshop of his Government's intention to ratify MARPOL 73/78 as soon as possible, and that the ratification process was on-going.

The participant from the Maldives informed the meeting that his Government had ratified OILPOL 54, and that ratification of MARPOL 73/78 was under consideration.

During the plenary discussion it was pointed out that impediments other than the establishment of reception facilities were also important in the considerations regarding ratification of MARPOL 73/78. Several clarifications on the provisions of MARPOL 73/78 were made, in particular regarding smaller vessels, where participants felt that the MARPOL text was unclear.

A question was raised regarding the possibility of regulating ships beyond MARPOL 73/78 by port States, and it was pointed out that MARPOL 73/78 does not preclude such strict regulations but that stricter demands for construction and equipment cannot be demanded for ships flying flags other than those of port States.

With regard to the recognition of certificates issued by non-Parties in ports of a Party, it was pointed out that the Convention demands no more favourable treatment of non-Party ships. This means that if a ship from a non-Party visits the port of a Party, the port shall treat the ship as if it were a MARPOL ship; however a certificate of compliance carried by such a ship and issued by a Party will be acceptable. Parties for port clearance purposes may reject a certificate of compliance issued by a non-Party.

The report on the current status of ratification and implementation of MARPOL 73/78 in Bangladesh, India, Maldives, Myanmar, Pakistan and Sri Lanka, including adjusted/corrected country profiles and national plans for ratification of the Convention, enhancement of implementation, and establishment of adequate reception facilities, are set out in Annex 6.

SESSION 3: RECEPTION FACILITIES

Planning of port reception facilities, strategies and preparatory activities (Mr. J.H. Koefoed)

In his intervention, the IMO representative presented the content of the guidelines for ensuring adequacy of reception facilities. He further underlined the need to plan for adequacy in close contact with the customers, i.e. ships regularly visiting ports and ships in coastal trade.

Financing, operating and administering port reception facilities (Mr. Zafrul Alam)

In his intervention, Mr Alam discussed operational and administrative aspects of reception facilities based on the experience from Singapore. He stated that reception facilities are good business if properly planned and maintained, and combined with a good enforcement system.

Presentation regarding consultant's findings on reception facilities (Mr. Trygve Meyer)

Mr. Meyer presented his findings from the ports in the region based on the draft Country Profiles developed during his visit to the six countries.

Plenary discussion

The main items covered during the Plenary discussion were financing, operating and administering of reception facilities, and the experience from Singapore was appreciated. It was made clear that the provision of port reception facilities and implementation of MARPOL 73/78 are linked. Without proper enforcement of ships in the waters of a Party, reception facilities may remain under-utilised.

Sessions 4: MARITIME ADMINISTRATIONS AND MARPOL 73/78

Basic Maritime Administration (Mr. J.H. Koefoed)

In his intervention, Mr. Koefoed presented IMO's view on basic maritime administration based on MARPOL - How to do it.

Singapore's Maritime Administration (Mr. Zafrul Alam)

Mr. Alam presented the Singapore maritime administration as one example.

Implementation of Annexes I - VI to MARPOL 73/78 (Mr. Zafrul Alam)

Mr. Alam went on to describe Singapore's experience with regard to the implementation of Annexes I – VI of MARPOL 73/78, and presented several examples.

Presentation by the South Asia countries on their Maritime Administrations

All countries present described their maritime administrations. The content of their presentations is included in the country profiles in Annex 6

General discussion

There was a vigorous general debate on maritime administrations, etc. During the lectures it was pointed out that flag, port, and coastal States might have slightly different interests even though it is often the same State, and that it is important that the IMO Member States take all interests into account.

CONCLUDING SESSION

Future co-operation in the South Asia Region

Prior to the Plenary discussion on regional implementation, Mr. Meyer presented a number of ideas regarding regional co-operation based on his fact-finding visit to the six countries.

Two Working Group discussed the following questions:

- Is there a need for regional co-operation for the development and use of reception facilities?

- If need be, what institutional body in the region could be used or established as a facilitator of this activity?

- What are the next steps to be taken as a follow up to this Workshop?

The Working Groups presented their conclusions in Plenary for further discussion, and the Workshop subsequently agreed to the following by consensus:

- to promote regional co-operation including exchange of information, knowledge and experience in the field of reception facilities;

- to immediately establish focal points in each country for this activity;

- to discuss the framework of regional co-operation at a future Workshop;

- to establish/finalize national plans for the establishment of adequate reception facilities (ongoing); and

- to plan for a new regional Workshop in ~~December 2001~~. 2003

In his concluding remarks, Mr. Koefoed expressed his appreciation to the Government of Sri Lanka for hosting the Workshop, and thanked SACEP for making funds available and the MPA for providing technical support for the event.

In conclusion, the participants expressed their appreciation to the organisers and felt that the Workshop had been productive and held in a spirit of good co-operation.

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ANNEX 1

WORKSHOP ON RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78 IN THE SOUTH ASIA REGION, COLOMBO, SRI LANKA

21-25 August 2000

LIST OF PARTICIPANTS

BANGLADESH

Capt. Nazmul Alam
Dock Master
Chittagong Port Authority
Bandar Bhaban
Chittagong - 4100
Bangladesh
Tel: 880 -31-724148
Fax:

Capt. Moin Uddin Ahmed
Regional Representative
Bangladesh Shipping Corporation
2 Abbey Road
Barking
Essex IG 11 tax
United Kingdom
Tel: 44 - 20 8507 8800 (off) / 8554 0315 (Res)
Fax: 44 - 20 8594 0234
e-mail: moin@bscuk.fsnet.co.uk

Capt. A.K.M. Shafiqullah
Nautical Surveyor
Dept. of Shipping
141-143 Motijheel C / A
Dhaka
Bangladesh

Tel: 880 -2 - 955 3584
Fax: 880 -2- 966 6159
e-mail: dos.env@bdcom.com / captsha@yahoo.com

Mr. Mohammad Badiuzzaman
Chief Engineer & Ship Surveyor
Department of Shipping
8th Floor
BIWTA Building
141-143 Motijhee C / A
Dhaka - 1000
Bangladesh

Tel: 880-2-8829385
Fax: 880-2-9666159

INDIA

Capt. A.N.M. Kishore
Managing Director
Indian Ports Association
1st Floor
South Tower
NBCC Place
Bhishm Pitamah Marg
Lodi Road, New Delhi 110003
India
Tel: 91-11-436 5632 / 436 5229
Fax: 91-11-436 5866/ 463 6204
e-mail: ipadel@nda.vsnl.net.in

Mr. Shridhar More
Director Pollution Control
Mumbai Port Trust
Mumbai
India
Tel: 91 -22 - 261 9565

Mr. Sanjoy Chakrabarty
Deputy Chief Surveyor
Directorate General of Shipping
Jahaz Bhavan
W.H. Marg
Mumbai -01
India
Tel: 91 - 22 - 2613 303
Fax: 91 - 22 - 261 3655
e-mail: sanjoy@dgshipping.com

Commandant Krishnaswamy Natarajan
Joint Director (Operations)
Coast Guard Headquarters
National Stadium Complex
New Delhi 110001
India
Tel: 91 - 11 - 338 4934
Fax: 91 - 11 - 338 3196
e-mail: weprotect@vsnl.com

Mr. Kamlesh Kumar
Director Ports (Operations)
Ministry of Surface Transport
New Delhi
India
Tel: 91- 11 - 371 6619
Fax: 91- 11 - 335 8218

PAKISTAN

Mr. Rashid Y. Usmani
Manager Pollution Control Department
Karachi Port Trust
Head Office Building
Edulji Dinshaw Road
Karachi
Pakistan
Tel: 92 - 21 - 271 190
Fax: 92 - 21 - 924 1539
e-mail: salmanu@usa.net

Mr. M. A. Shaheen
Nautical Surveyor
Port and Shipping Wing
Ministry of Communications
Karachi
Pakistan
Tel: 92 -21 - 920 4186
Fax: 92- 21 - 920 4191

Mr. Tariq Sardar
Engineer & Ship Surveyor
Mercantile Marine Department
Ministry of Communications
Govt. of Pakistan
70 4 Timber Pond Road
Keamari, Karachi
Pakistan
Tel: 92 - 21 - 285 2703-4
Fax: 92 - 21 - 285 1307
e-mail tsardar@hotmail.com

MALDIVES

Mr. Ahmed Rasheed
Harbour Master
Maldives Ports Authority
Male
Maldives
Tel: 960 - 329 339 / 771 966
Fax: 960 - 325 293

Mr. Hussain Shareef
Surveyor Engineer
Ministry of Transport & Civil Aviation
G. Maafaiyge
Male
Maldives
Tel: 960 - 323 993
Fax: 960 - 323 994
e-mail: mintrans@transcom.gov.mv

MYANMAR

Mr. Htay Aung
Deputy Director (Engineering)
Department of Marine Administration
6 Storyed Building
Strand Road, Yangon
Myanmar
Tel: 95 - 1 - 274 927
Fax: 95 - 1 - 254 159

Mr. Tin Soe
General Manager
Myanma Port Authority
No. 10 Pansodan Street
Yangon
Myanmar
Tel: 95 - 1 - 280 878 / 282 677
Fax: 95 - 1 - 295 134 / 256 321 / 256 336
e-mail: MPA-SAD@mptmail.net.mm

SRI LANKA

Mr. Dhanapala Weerasekera
Chairman
Marine Pollution Prevention Authority
Harbour Master Building
Chaitya Road, Colombo 1
Sri Lanka
Tel: 94-1-347480
Fax: 94-1-347480
e-mail: mppaslk@lanka.com

Mr. A. R. M. Abeyratne Banda
Deputy Director - Merchant Shipping
Ministry of Shipping and Shipping Development
Merchant Shipping Division
No. 43 - 89 York Street
Colombo 1
Sri Lanka
Tel: 94 -1 - 441 293
Fax: 94 -1 - 441 429/435160
e-mail: dmsmos@sltnet.lk

Mr. A. A. Kulatunga
Deputy Director (Policy)
Ministry of Forestry & Environment
104A Kithulwatte Road
Colombo 8
Sri Lanka
Tel: 94 - 1 - 674 672
Fax: 94 - 1 - 671 405 / 671 165
e-mail: envpoly@eltnet

Ms. Priyani Wijemanne
General Manager
Marine Pollution Prevention Authority
Harbour Master Building
Colombo 1
Sri Lanka
Tel: 94 -1 - 347 480
Fax: 94 -1 - 347 480
e-mail: mppaslk@lanka.com

Mr. A. J. M. Gunasekara
Regional Officer
Marine Pollution Prevention Authority
Harbour Master Building
Chaitya Road, Colombo 1
Sri Lanka
Tel: 94 -1 - 347 480
Fax: 94 -1 - 347 480

Captain Nihal Keppetipola
Harbour Master
Sri Lanka Ports Authority
Colombo 1
Sri Lanka
Tel: 94 -1 - 422 674
Fax: 94 - 1 - 325 660

Mr. D. Godage
Chied Engineer (Planning & Development)
Sri Lanka Ports Authority
Colombo 1
Sri Lanka
Tel: 94 -1 - 323 024
Fax: 94 - 1 - 325 660

RESOURCE PERSONS

Mr. J. H. Koefoed
Implementation Officer
Marine Environment Division
International Maritime Organisation
4 Albert Embankment
London SE1 7SR
United Kingdom
Tel: 44 - 20 - 75873221
Fax: 44 - 20 - 75873210
e-mail: jkoefoed@imo.org

Mr. Zafrul Alam
Asst. Director (Policy)
Maritime and Port Authority of Singapore
Singapore
Tel: 65 - 3751623
Fax: 65 - 3751652

Cdr. T. A. Meyer (Ret)
Consultant
IMO Port Reception Facility Project for South Asia
Senior Shipping & Environmental Management Consultant
36 Taffrail House
3 Burrells Wharf Square
London E 14 3 TG
United Kingdom
Tel: 44 - 20 - 7515 9067
Fax: 44 - 20 - 7515 9067
e-mail: trygve@grobu26.demon.co. uk

Cdr. Hiran Soysa
Assistant Consultant
IMO Port Reception Facility Project for South Asia
Aitken Spence Travels Ltd
315 Vauxhall Street
Colombo 2
Sri Lanka
Tel: 94 -1 - 433 118 / 308 308 / 828 638
Fax: 94 -1 - 074 719 834
e-mail: hiran@aitkenspence.lk

SOUTH ASIA CO-OPERATIVE ENVIRONMENT PROGRAMME (SACEP)

Dr. Ananda Raj Joshi
Director General
South Asia Co-operative Environment Programme
10 Anderson Road
Colombo 5
Sri Lanka
Tel: 94 -1 - 589 376 589 787
Fax: 94 -1 - 589 369
e-mail: aj_sacep@eureka lk

Mr. Prasantha Dias Abeyegunawardene
Deputy Director Programmes
South Asia Co-operative Environment Programme
10 Anderson Road
Colombo 5
Sri Lanka
Tel: 94 - 1 - 596 442 / 589 787
Fax: 94 -1 - 589 369
e-mail: pd_sacep@eureka.lk

Ms. Chandima Jayasuriya
Secretarial Assistant
South Asia Co-operative Environment Programme
10 Anderson Road
Colombo 5
Sri Lanka
Tel: 94 -1 - 589 787
Fax: 94 -1 - 589 369

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Workshop on Ratification and Implementation of MARPOL 73/78 in the South Asia Region

IMO-SACEP/1
21 to 25 August 2000

PROVISIONAL AGENDA

WORKSHOP ON RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78 IN THE SOUTH ASIA REGION

21 to 25 August 2000, Colombo, Sri Lanka

Monday, 21st August 2000

08:30 - 09:00	Registration.
Session 1:	**Opening Session**
09:00 - 09:30	Welcoming remarks. • Dr. A. R. Joshi, Director General, SACEP • Mr. J. H. Koefoed, IMO • Mr. Z. Alam, MPA, Singapore Participating South Asia countries will be invited to make opening statements.
09:30 - 10:00	Overview of the South Asia port reception facility project and the workshop, including objectives and organization of the week's work (Mr. J. H. Koefoed, IMO and Cdr. T. A. Meyer, IMO consultant).
10:00 - 10:30	Coffee Break.

Session 2:	**National Profiles on ratification and implementation of MARPOL 73/78**
10:30 - 11:15	Lecture on Ratification and implementation of MARPOL 73/78: Key considerations and obligations (Mr. J. H. Koefoed, IMO).
11:15 - 11:30	Question and answer session.
11:30 - 12:00	Presentation of consultant's findings on the status of ratification and implementation of MARPOL 73/78 in the six South Asia countries (Cdr. T. A. Meyer, IMO consultant).
12:00 - 12:30	Working Group session. National ratification and implementation of MARPOL 73/78. Participants will split into six working groups according to their nationality and each group will review the national profile prepared by the consultant for their country. Following this, the working groups will prepare draft national plans for ratification/implementation of MARPOL 73/78.
12:30 - 14:00	Lunch.
14:00 - 14:30	Continuation of working group session on ratification and implementation of MARPOL 73/78.
14:30 - 15:00	Plenary session. Presentation of the working groups' deliberations.
15:00 - 15:30	Coffee break.
15:30 - 17:00	Plenary discussion on the national plans for ratification and implementation of MARPOL 73/78 for the six South Asia countries and finalization of national plans.

Tuesday, 22nd August 2000

Session 3:	**Port Reception Facilities.**
09:00 - 09:30	Lecture on the planning of port reception facilities: Strategies and preparatory activities (Mr. J. H. Koefoed, IMO).
09:30 - 09:45	Question and answer session.
09:45 - 10:15	Lecture on Financing, Operating and Administering Port Reception Facilities and Services (Mr. Z. Alam, MPA Singapore).
10:15 - 10:30	Question and answer session.
10:30 - 11:00	Coffee break.
11:00 - 12:30	Presentation of consultant's findings on the port reception facilities in the region (Cdr. T. A. Meyer, IMO consultant).
12:30 - 14:00	Lunch.

14:00 - 14:45	Lecture on the current and future need for port reception facilities and forecast on international and national shipping volumes (Cdr. T. A. Meyer, IMO consultant).
14:45 - 15:30	Lecture on Singapore's experience in waste management (Mr. Z. Alam, MPA Singapore).
15:30 - 16:00	Coffee break.
16:00 - 17:00	Working Group session. Each working group will prepare draft action plans for the provision/enhancement of port reception facilities in their country, taking into account national and regional waste management programmes and capacities.

Wednesday, 23rd August 2000

09:00 - 10:00	Continuation of Working Group session.
10:00 - 10:30	Presentation of working groups' deliberations.
10:30 - 11:00	Coffee break.
11:00 - 12:30	Plenary session. Plenary discussion on draft action plans for provision/enhancement of port reception facilities in the six South Asia countries and finalization of the action plans.
12:30 - 14:00	Lunch.
Session 4:	**Marine Administrations responsible for MARPOL 73/78**
14:00 - 14:15	Lecture on Basic Marine Administration (Mr. J. H. Koefoed, IMO).
14:15 - 14:30	Lecture on Singapore's Marine Administration (Mr. Z. Alam, MPA Singapore).
14:30 - 15:00	Presentation by the South Asia Countries on their Marine Administrations.
15:00 - 15:30	General discussion on national marine administration and implementing legislation.
15:30 - 16:00	Coffee break.
Session 5:	**Implementation of MARPOL 73/78 Annexes**
16:00 - 17:00	Lecture on MARPOL 73/78 Annexes and their requirements for port reception facilities (Mr. J. H. Koefoed, IMO).

Thursday, 24th August 2000

09:00 - 10:00	Lecture on Implementation of MARPOL 73/78 Annexes by Singapore (Mr. Z. Alam, MPA Singapore).
10:00 - 10:30	Working Group session. Each working group will identify priority issues associated with: • National legislation; • Marine administration; • Infrastructure and support services; and • Human resource capacity and will prepare draft action plans for advancing or improving the implementation/enforcement of national legislation.
10:30 - 11:00	Coffee break.
11:00 - 11:30	Plenary session. Presentation of working groups' deliberations.
11:30 - 12:30	Plenary discussion on working group results and finalization of action plans.
12:30 - 14:00	Lunch.
14:00 - 17:00	Plenary discussion on the steps needed to implement the action plans that have been developed during the workshop.

Friday, 25th August 2000

10:00 - 11:30	Adoption of the Workshop report.
11:30 - 12:00	Closing of the Workshop.
12:00 - 14:00	Lunch.

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WORKSHOP ON RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78 IN THE SOUTH ASIA REGION COLOMBO, SRI LANKA, 21 TO 25 AUGUST 2000

Opening Statement by
Dr. Ananda Raj Joshi
Director General
South Asia Co-operative Environment Programme (SACEP)

Mr. J.H. Koefoed, IMO
Mr. Z. Alam, MPA, Singapore
Commander Meyer, IMO Consultant
Commander Hiran Soysa, IMO Assistant Consultant

Distinguish delegates

It is indeed a matter of profound pleasure and privilege for me to welcome all of you on behalf of the Secretariat of South Asian Seas Programme and South Asia Co-operative Environment Programme (SACEP) to this very important meeting

Among the environmental challenges, the protection of the marine and coastal ecosystem is one of the major challenges for the sustainable development. Coastal and marine environment are being rapidly degraded by various natural as well as human activities. The impact of these problems is not only in-situ but they cross the national boundaries affecting global ecological balance.

In the decade, the significant progress has been made in addressing these environmental issues. Internationally, Chapter 17 of Agenda 21, the United Nations Convention on the Law of the sea, the International Convention for the Prevention of Pollution from Ships (MARPOL), and the FAO Code of Conduct for Responsible Fisheries have provided the guideline for ocean conservation and sustainable use of marine resources.

Regionally The greatest progress have been made in the realm of institutional developments, international co-operation, public participation and emergence of local communities and non-Governmental organisation's activities and implementation of various action activities in the areas of sound and sustainable integrated coastal ecosystem management. Legal frameworks, economic instruments and environmentally sound technologies have also been developed and applied in the member countries of SACEP. The Action Plan for South Asian Regional Seas has identified the priority activities in four specific areas, such as Integrated Coastal Zone Management, Development and implementation of National and Regional Oil Spill Contingency Planning, Human Resources Development, Land based sources of marine pollution. It is worth to mention that SACEP has already taken some initiatives in this area, such as implementation of marine ecosystem management training, preparation of oil spill contingency plan in collaboration with UNEP and IMO and development of detailed project proposals. But there is much that remains to be done in the area of marine ecosystem conservation and management. The present meeting related to the ratification and implementation of MARPOL 73/78 will help to implementation of MARPOL.

The overall objectives of this meeting are to discuss on:

- Overview of the South Asian Port Reception Facilities
- Ratification of implementation of MARPOL 73/78
- Preparation of Action Plan for the provision /enhancement of Port Reception facilities
- Waste Management Programmes
- Identification of Priority Issues – relating to legislation, administration, infrastructure development and support services and human resource development.

It is our hope that the outcome of this forum will help to implement the MARPOL 73/78 and to develop strategy for implementation.

I will like to express sincere gratitude to IMO for this timely and important initiative and technical assistance and financial support. SACEP is also thankful to UNEP for providing financial support and to the IMO Consultant and Assistant consultant for their hard work and contributions. Once again, let me warmly welcome all the distinguish delegates to this meeting.

I wish you every success in your deliberations.

Thank you for your kind attention.

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ANNEX 4

Opening address to the Workshop on ratification and implementation of MARPOL 73/78 in the South Asia region Colombo, Sri Lanka 21 to 25 August 2000

Jens H. Koefoed

Project Implementation Officer
Marine Environment Division, IMO

Dear participants

Let me begin by thanking you all for attending this workshop. I will use my opening speech to draw up some of the broader lines around this weeks subject.

IMO is very proud to participate in the processes that lead to an improved marine environment performance in the shipping industry. We must assume that the activities carried out by IMO and IMO personnel have had a positive effect on these developments.

The overall aim is to encourage countries to ratify MARPOL 73/78 and to implement all the requirements, having first appreciated their obligations, what they need to do and where problems may exist.

Basic facts about IMO

The Convention establishing the International Maritime Organization was adopted on 6 March 1948 by the United Nations Maritime Conference. The purpose of the Organization, as specified in Article 1(a) of the Convention, is "to provide machinery for co-operation among Governments in the field of governmental regulation and ... to facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships".

In brief, IMO is 158 Members States (which own more than 96% of the world tonnage) assisted by the Secretary-General and the Secretariat at IMO headquarters in London. Structurally, the Organization consists of an Assembly, a Council, four main Committees and a number of Sub-Committees dealing with technical issues.

Overview of the state of the marine environment

In April-May 1999, during the deliberations at the 7th session of the UN Commission on Sustainable Development (CSD), it was noted that degradation of the oceans continues on a global scale despite certain progress having been made during the last decades in some areas on specific issues.

Most marine pollution comes from land-based sources and although it is introduced locally, it has an adverse effect on the health of the oceans worldwide. It has been recognized for a long time that pollution has no boundaries and sustainable environment protection can only be achieved through the co-operation of governments and industries, scientific institutions, international organizations, NGOs and the public at large.

As of today there are more than 200 international treaties, most of them drafted in the past 20 years, dealing with every aspect of environment protection. At least a third of these are designed to protect the marine environment and most of them contain provisions on international co-operation which can be global or regional, scientific or technical, administrative or legal. IMO has also made its contribution to this impressive list. However, over the past few years IMO's priorities have shifted from the development of new regulations to the effective implementation of existing ones. The need for this change in emphasis was recognized as far back as 1981, when the IMO Assembly adopted a resolution noting that "time is needed for maritime administrations to formulate national rules and regulations for effective implementation of IMO Conventions" and calling for a slow-down in the development of new shipping legislation. On the other hand, in view of the continuous changes in shipping technologies, IMO cannot cease to maintain the process of keeping regulations up to date.

Global versus regional approach

It has been mentioned that IMO currently has 158 Member States, of which more than 100 are developing countries. What is "practicable" for modern industrial countries may seem unattainable for others, hence the adoption of the "highest practicable standards" inevitably makes some concession to the needs of less developed countries. While this may have given rise to some soul searching in countries that feel IMO standards in some areas are not high enough, for some 30 years IMO was successful in operating on a consensus basis around this very important concept. An incentive to developing countries to enter such consensus has been the provision of technical assistance to raise national capabilities to IMO standards, thus providing an entrée into international maritime trade. It is an approach also welcomed by those striving for more equitable trading conditions.

The threat to the consensual approach comes from two directions - unilateralism and regionalization. An example of the former is the OPA 90 legislation adopted by the United States in the wake of the "Exxon Valdez" incident in March 1989. This set higher construction standards than called for by MARPOL 73/78 for oil tankers visiting

US waters and also deviated from IMO's CLC and Fund Conventions on compensation limits for pollution damage. Despite IMO's subsequent adoption of MARPOL amendments making the double hull method of construction mandatory, the United States has so far felt unable to endorse IMO's acceptance of the mid-height deck design as giving an equivalent level of protection, thus effectively writing off this innovation.

Thus, we see an incipient movement towards national and regional standards which could, if seen by other countries as the answer to their maritime problems, develop into a challenge to IMO's global role. There are several obvious ways in which such a departure would be detrimental. Firstly, it could be used by countries not wishing to be bound by IMO standards to argue for the development of less demanding regional regimes. If this happened, the accumulated experience of IMO members and its many related industry-based associations would be lost to those countries, with inevitable adverse consequences. Entry by the ships of those countries into the ports of States party to more stringent conventions would in all probability be denied, resulting in fragmentation of the shipping industry and less efficient use of the available capacity. Pollution risks would increase in proportion to the larger number of ships required.

New challenges for IMO

At this workshop we shall deal with ratification of MARPOL and the establishment of reception facilities.

For your information, IMO have several other items lon its agenda for the time being, some having consequences for MARPL i.e. the aftermath of recent oil pollution accidents i.e. the Erika spill outside France etc, and others being a result of other processes. Revision of existing instruments is a continuos process and I will not elaborate on that here. Of new and coming items I would like to point out:

1. Tin organic substance will be banned for use on ships in the near future

2. IMO is working on an instrument concerning organisms in ballast water, an item which has received al lot of attention lately. In that context IMO is managing a GEF/UNDP project on ballast ,and India participates in that project

3. IMO is working towards improved environmental and safety handling of ship recycling. The representative from Bangla Desh is chairman of the Correspondence group on ship recycling.

4. IMO is working on a strategy towards climate gases. The importance of this is that the shipping industry with it's structure can not be regulated as other industries. Some other way to deal with climate gases should be found. Until now IMO has worked out a climate gas study for shipping. Actual measures will be discussed at a later stage.

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WELCOMING REMARKS BY MR ZAFRUL ALAM, ASSISTANT DIRECTOR[1] (SPECIAL PROJECTS), POLICY DIVISON, MPA, AT THE WORKSHOP ON THE RATIFICATION AND IMPLEMENTATION OF MARPOL, COLOMBO, 21-25 AUG 2000

Dr A R Joshi, Director General, SACEP, Mr J H Koefoed, IMO, Cdr T A Meyer, IMO Consultant, distinguished participants from Bangladesh, India, Maldives, Myanmar and Pakistan, Ladies and Gentlemen.

It is a great pleasure for me to join Dr Joshi and Mr Koefoed to welcome you to this Workshop on the ratification and implementation of MARPOL 73/78.

I visited Sri Lanka for the first time in 1974 when I was a young man of 25. I was a seagoing engineer on board a ship of Neptune Orient lines, Singapore and my ship visited Trincomali and Colombo. I immediately fell in love with the natural beauty of this country. I was also amazed to see rich culture and traditions of the friendly and hospitable people of Sri Lanka. I am very pleased to return to Sri Lanka after 26 years.

This Workshop on the MARPOL Convention has been organized under the Singapore-IMO Memorandum of Understanding (MOU) on a Third Country Training Programme (TCTP). The MOU was established on 1 September 1998, and comes under the Singapore Co-operation Programme (SCP), which provides technical assistance to developing countries. Under the MOU, Singapore and the IMO have co-operated in providing training programmes for developing countries in Africa and the Asia-Pacific to enhance their capacity to support international rules and standards of the IMO relating to maritime safety and prevention and control of marine pollution. The training programmes conducted under the MOU complement the IMO's Integrated Technical Co-operation Programme (ITCP), which aims to equip developing countries with the capabilities and expertise to implement maritime rules and standards adopted by the IMO.

Singapore and the IMO on 14 Jun 2000 extended this MOU on TCTP. The extension of the MOU was effected through an exchange of official letters between Singapore and the IMO during the 84th IMO Council session in London, United Kingdom.

To date, 162 participants from 22 countries have attended the seven courses conducted under the Singapore-IMO MOU on TCTP. Four of these courses have been conducted in Singapore, with the others conducted in Sri Lanka, India and Ghana. The latest training programme conducted in Singapore from 12-21 Jun 2000 under the MOU was based on the Revised IMO Model Course 3.12 on Assessment, Examination and Certification of Seafarers. The course was aimed at equipping participants with the necessary skills and knowledge to examine shipmasters, mates and engineers officers for competence. The latest course outside Singapore on Oil Pollution Preparedness, Response and Cooperation (OPRC) was conducted in Nigeria last month. For the rest of 2000, more courses have been planned under the MOU. These include training courses for maritime instructors,

[1] First Secretary (Maritime Affairs), Singapore High Commission, London and Singapore's IMO Liaison Officer in London with effect from 1 Sep 2000

examiners and assessors which would be held in the Philippines and Kenya, as well as courses on Flag State Implementation and on Oil Pollution Preparedness, Response and Cooperation (OPRC) which would be held in Singapore in October and November.

The extension of the Singapore-IMO MOU on TCTP marks the continued co-operation between Singapore and the IMO in the provision of quality training so as to achieve safer shipping and cleaner oceans.

Now allow me to say a few words on the objectives of this Workshop. The main purpose of this Workshop as I understand is to help your countries to accede to MARPOL 73/78 if your country has yet to accede to it. If your country is already a party to MARPOL 73/78, the workshop is expected to help you to implement its provisions. You may ask why countries in this region should accept and implement the MARPOL Convention.

The main reason is shipping is international by nature and pollution knows no boundary. Pollution in the waters of one country can quickly affect the waters of the neighbouring countries. Hence the best way to tackle ship-sourced pollution is the acceptance and implementation of IMO Conventions on marine pollution, especially MARPOL 73/78. If there was no MARPOL 73/78 individual countries would have introduced their individual national requirements on foreign ships to protect their port and coastal environment. What shipowners hate are not more rules but different rules in different countries or regions. Regional and unilateral applications to foreign flag ships of national requirements which go beyond international/IMO standards are detrimental to international shipping and the functioning of global trade and should therefore be avoided. It is increasingly recognized that global action such as MARPOL 73/78 is best achieved through regional implementation. When all countries in the South Asia will accede to MARPOL 73/78, this will provide a common administrative, legislative and enforcement framework and this will facilitate regional co-operation in preventing and combating oil pollution in this region.

Let me tell you why I am here? I am here to share with you Singapore's experience in the MARPOL Convention. Singapore is an island State like Sri Lanka. Of course we much smaller, a tiny dot on the world map. Singapore has managed to take care of its environment and the United Nations considers Singapore as a model for sound environmental management and a good example for developing nations to follow. As Singapore is situated in the heart of Asia and since environmental problems faced by countries in South Asia now were faced by Singapore and solved not so long ago, our solution are more suitable and practicable compared with solutions prescribed by developed countries e.g. Europe, USA and Japan.

In ensuring that economic development meets the needs of the present generation without compromising the needs of future generations, Singapore's environmental record has been exemplary. Over the past 35 years, Singapore has responded to the challenges of fast-paced industrial development, rapid urbanization, increased use of port and coastal waters by building a Garden City with clean port and river waters that is renowned

throughout Asia; a city with a well-designed land and sea-use plan and a comprehensive and sophisticated environmental infrastructure.

While environment responsibility begins at home, it also extends beyond national boundaries to encompass the world, Singapore has therefore continued to cooperate closely with international organizations such as IMO, and the global community to find solutions, regional and domestic environmental problems.

Singapore is currently the busiest port, No1 bunkering and ship repair port in the world. It is also a leading oil refining centre. Singapore has the seventh largest merchant shipping fleet in the world. The Malacca and Singapore Straits are a major route for general shipping, especially VLCCs trading from Europe/Middle East to Asia Pacific Region and vice versa. We are therefore vulnerable to pollution from ships.

We place great importance on the prevention of marine pollution from ships and the preservation of the marine environment. Our strategy has been to take a comprehensive approach that begins with prevention, includes implementing strict regulations and enforcing them and continues with putting in place and in constant readiness emergency plans for quick and effective cleanup operations when cases of pollution occur. Finally, we have put the mechanisms in place to ensure that adequate compensation for pollution clean-up cost is recoverable from those who have caused the pollution.

It is said that prevention is better than cure. The MARPOL Convention is a prevention convention. Hence we felt that it is essential for Singapore to accede to this Convention. Accession to the Convention in 1990 was conceived against this backdrop and was the result of a nation-wide effort to protect the environment including the marine environment. Singapore acceded to Annexes I & II, III and V (garbage) in 1990, 1994 and 1999 respectively. We have just acceded to 1997 MARPOL Protocol which adds a new Annex to MARPOL 73/78 i.e. Annex VI (air pollution from ships) on 10 Aug 2000.

Three points for deliberation of the Workshop

I had the opportunity to participate in several workshops on the implementation of IMO Conventions on marine pollution in Indonesia, Thailand, Vietnam, Singapore, Philippines and Australia as an IMO Consultant or Resource Person. As I was born in South Asia and spent 23 yrs of my life in this region, I am also familiar with the environmental problems in this region. The problems faced by developing nations whether they are in East Asia, Middle East or South Asia are more or less similar. In the next few days resource persons and the workshop participants are going to deliberate on various problems faced by South Asian countries together and see how best we can address these problems. I would like to suggest that you consider the following three points for enhancing regional institutional capacity and technical capability in the South Asia:

Point 1

There should be proper co-ordination among different efforts made by existing institutions in South Asia.

A number of institutions such as IMO, aid agencies, world bank, UNEP, UNDP etc are currently engaged in capacity building activities in South Asia. However their efforts are generally fragmented and there are overlapping efforts and activities. As the same officers from relevant government agencies participate in activities organized by these institutions to address more or less similar issues again and again, they suffer from training fatigue and confusion. Such knowledge and information sharing without follow-up action programs and monitoring of the effectiveness of the programs do not achieve the desired objectives. Scarce skilled manpower and funding are therefore not effectively utilized leading to wastage. Hence there is a need for co-ordination of the capacity building activities of these institutions to prioritize and streamline the activities. I believe the South Asia Co-operative Environment Programme (SACEP) is to a certain extent, carrying out this co-ordinating function. The organizational capability of SACEP can be strengthened further to enable it to play a greater role in coordinating different efforts made by existing institutions in South Asia.

Point 2

Countries in South Asia must be helped to develop clear national policies on combating marine pollution.

Regional capacity to implement IMO Conventions on marine pollution including MARPOL 73/78 cannot be successfully built unless each nation in the region builds up its national capability. Political will to protect the environment, clear demarcation of responsibilities for implementing government agencies, adequate laws in line with the IMO Conventions on marine pollution and effective enforcement, adequate human and financial resources, willingness to spend money on preventing measures must feature prominently in a country's strategy.

Point 3

National capacity building to enhance regional capacity depends on having competent individuals in the government agencies to implement national policies. My third point is therefore on building the capability of the individual.

As far as an individual is concerned, lack of active participation by individual officers from relevant government agencies in the formulation of the international conventions on marine pollution at the IMO is the key problem in a developing nation. This lack of participation leads to lack of awareness and a sense of commitment in adopting the

initiatives made at IMO. IMO conventions are complex documents. Their preparation needs many years of intense discussions and negotiations. It is difficult for a maritime administration to give effect to a convention unless its officer(s) are aware of discussions and deliberations at the IMO and familiar with all relevant guidelines and interpretations developed by IMO. Besides a convention is not a static document. It is amended by IMO as and when necessary. A State Party to the Convention has international obligation to give effect to the amendments. It is therefore important for all relevant agencies including lead agencies responsible for implementing conventions to identify suitable officers and involve them in IMO meetings.

The Maritime Administration of each South Asian countries should consider appointing a leader/co-ordinator to co-ordinate all activities relating to the preparation of groundwork for the country to accept and implement a convention such as MARPOL 73/78 and to monitor international and regional development on the convention.

Conclusions

In concluding my welcome remarks, I wish to point out that Singapore is committed to prevention and management of marine pollution. The basic needs of Singaporeans have been met and rising affluence demands that a better quality of life and a quality environment be high on the national agenda. With limited resources, especially land and coastal waters, and many conflicting demands on them, Singapore has adopted a pragmatic approach to the environment.

Singapore has been able to keep its waters clean by controlling pollution from sea and land-based sources simultaneously through acceptance and implementation of key international conventions on marine pollution including MARPOL 73/78, co-operating and working with international communities and neighbouring States and by carrying out regular training and exercise. As a responsible member of the international maritime community Singapore has contributed to enhancing institutional capacity and technical capability to implement international conventions relating to marine pollution in the East Asian Seas, APEC, South Asia, Middle East, Africa and other regions and it will continue to do so.

I am very glad to have the opportunity to be with you here. I look forward to share with you our experience in the MARPOL Convention and learn from you how you tackling your problems

Thank you.

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Friday 21 August, 2000
TAM/O1/IMOME002.DOC

Workshop on Ratification and Implementation of MARPOL 73/78 in the South Asia Region

IMO-SACEP/4/Rev
21 to 25 August 2000

NATIONAL PROFILES ON RATIFICATION AND IMPLEMENTATION OF MARPOL 73/78

Submitted by IMO

SUMMARY

Executive summary:	This document provides information on the current status of ratification and implementation of MARPOL 73/78 for the six South Asia countries. The document has been prepared by the IMO consultant and is based on information collated by the consultant during his meetings in the region in May/June 2000.
Action to be taken:	The Workshop is invited to consider the information provided in the document and to comment and provide any additional information as it deems appropriate, with a view of having consolidated information on the status of ratification and implementation of MARPOL 73/78 in South Asia. The Workshop is invited in particular to consider this information when preparing the draft national plans for ratification and implementation of MARPOL 73/78.

Note: This document was revised and adopted as appropriate by the Workshop, and what follows is the revised text.

* * *

THE PEOPLE'S REPUBLIC OF BANGLADESH

1 General shipping related country information

1.1 Bangladesh has a coastline of 580 km bordering the Bay of Bengal. The country has 8,046 km of navigable waterways of which 3,058 km are main cargo routes. It also has 145 km stretch of beach, with numerous sandy beaches on the islands in the atoll chain. The country has the largest area of coastal wetlands in the region, with vast tidally inundated land areas which are dominated by mangrove forests. There are three coastal protected areas.

1.2 The country's main industries include jute manufacturing, cotton textiles, food processing, steel production, fertiliser production and tea. Export commodities are mainly garments, jute and jute goods, leather, frozen fish and seafood. Import commodities are capital goods, textiles, food and petroleum products.

1.3 Rain water flowing from the mountains in India floods the rivers in the country regularly. Persistent hazardous substances reach the marine environment. In situ observation showed little garbage or pollutants floating in the river. Sewage treatment plants in Dhaka and Chittagong handle a great portion of the raw sewage generated. The effluents discharged from Chittagong's oil refinery are connected to the city's sewage system.

2 Status of ratification of MARPOL 73/78

2.1 Bangladesh has not acceded to the MARPOL 73/78 Convention.

3 Maritime activities including commercial shipping and fisheries

3.1 The country's merchant marine consists of 211 ships, of which 21 are dry cargo vessels involved in international trade, 70 are tankers and 120 are coastal vessels. In addition there are 1,500 smaller cargo vessels operating in inland waters.

3.2 Bangladesh has 73 ocean-going fishing vessels and some 6,000 coastal fishing vessels. Foreign shipping vessels are being licensed for fishing within the Exclusive Economic Zone (EEZ). Reportedly, some illegal fishing is taking place in the absence of sufficient national resources to monitor fishing activities.

4 Administrative aspects

4.1 The Bangladesh Ministry of Shipping and its subordinate departments are responsible for ship registration and controls of ships in international trade.

4.2 The transportation of commodities on the coast and inland water ways are regulated under the Merchant Shipping Act. Since 1990, the Department of Shipping has endeavoured to develop national legislation on the prevention of marine pollution that would embrace the MARPOL 73/78 convention. The proposed legislation is currently with the Ministry of Shipping. The next step will be for the Ministry of Law to further review it before it proceeds to the Cabinet for review. It will then be passed the Parliament for adoption.

4.3 National legislation for the protection of the environment exists as the Bangladesh nvironment Conservation Act, 1995, under the Ministry of Environment. This law was enacted for conservation, improvement of quality standards, and control and mitigation of pollution.

4.4 Whilst the Department of Shipping has developed two ordinances intended to improve environmental control of shipping activities, so far no further action has been taken at ministerial levels. The apparent reason for this is that the Environment Conservation Act is considered to encompass the control of pollution from ships and there is a political drive for deregulation and downsizing or rightsizing laws and regulations.

4.5 Although Bangladesh has not signed the Indian Ocean Memorandum of Understanding (MOU) on Port State Control, it is in the process of depositing a letter of acceptance with the MOU Secretariat. Bangladesh maintain close liaison with Indian Ocean MOU secretariat.

5 Ports

5.1 Chittagong Port

5.1.1 Chittagong is the main port in Bangladesh and has a tidal river port of 33 berths for ocean going vessels. The tide difference creates currents of up to 5 knots. The port operates under the Ministry of Shipping.

5.1.2 Some 1.2 million tonnes of crude oil is imported each year from the Middle East, with a similar quantity of refined products being imported, of which 90% comes from Singapore and 10% from the Gulf. Crude oil arrives in ocean-going tankers of 90,000 - 100,000 dwt. These are lightered by two tankers (*Banglar Jyoti/Banglar Shourabh*) of approximately 14,000 dwt equipped with segregated ballast tanks (SBT), which bring the oil from the deeper drafted anchorage (Kutubdia) to the oil refinery's crude oil berth, located up the river. There are two mooring berths for refined products near the refinery from which naphtha is exported in tankers of around 25,000 dwt. Coastal and inland tankers of 1000 dwt and road tank wagons undertake the domestic distribution of petroleum products. Facility of accepting garbage and oil is available and there are no delays at any stage. However, there is no plan management for the disposal of the above.

5.1.3 Apart from berths for oil products the port also has berths which embrace a container terminal, general cargo, food/grain, cement, fertilizer and ammonia terminals. The latter two are for exports. Some 90% of the container vessels operate between Chittagong, Mongla and Singapore and 10% between Colombo and Chittagong. The import of grain in dry bulk cargo vessels is from the USA and Australia. Some 125 ships per month visit the port of Chittagong.

5.1.4 50% of the berths in Chittagong are owned by the Port Authority and are leased out. The refinery company owns the berths they operate for the tankers. The port is serviced by 7 tugs and the pilotage operations come under the Port Authority.

5.2 Mongla Port

5.2. It is situated 65 nautical miles inland which can be approached from the Bay of Bengal through Pussur River. Approximately four hundred ocean going vessels visit this

port annually. Ships' berths consist of 10 anchorage areas and 6 jetties. The ships calling at Mongla are mostly container ships, general cargo vessels and bulk carriers. There are no

tanker call with oil cargoes. The port is connected with the hinterland through a network of river system. Recently the road connected was established to Mongla. It is also a busy inland port.

6 Reception facilities/disposal of ship generated wastes

6.1 The Chittagong dry-dock has a facility for receiving ship generated oily waste. Apart from this facility there are no fixed port reception facilities available in the country for the collection of oily waste from vessels. This facility is provided by contractors enlisted with the port with varies sizes of vessels. However, some companies are authorised to collect oily wastes. It is believed that very little oil dumping takes place, as oily waste is regarded as a valuable resource in Bangladesh, where its uses include fuel in the numerous brick factories, rust protection for automobiles and impregnation of wooden materials. However, without legislation in place there is no obligation on the ports and oil terminals to provide reception facilities.

6.2 Reception facilities for the reception of waste from ships transporting Annex II of MARPOL 73/78 chemicals are also available.

6.3 The port Agents are licensed by the Port Authority to arrange contractors to collect from vessels that need to dispose of garbage, dunnage and damaged cargoes. Damaged cargoes (wet damaged grain etc.) were previously disposed of in a dumping site at sea, but this is now discontinued. A sub-terrain land is currently being used as dumping site subjected to approval by health authorities, the Customs, the Police and other public sectors.

INDIA

1 General shipping related country information

1.1 India has a coastline of around 5,560 km, with approximately 3,180 km of inland waterways navigable by large vessels. India is rich in natural resources such as coal, iron ore, manganese, bauxite, natural gas, petroleum and limestone.

1.2 India's export commodities are mainly textile goods, engineering goods, chemicals and leather manufactured items. Imported goods comprise crude oil and petroleum products, machinery, fertiliser and chemicals. India's EEZ has an area of 2.01 million km^2 and is rich in oil, gas and minerals.

1.3 India has some 40 sanctuaries and wildlife protected areas in coastal waters and in islands located near main shipping lanes, such as the Lakshadweep, Andaman and Nicobar Islands. These areas have mangroves, coral reefs and important nesting beaches for a variety of species. The Andaman and Nicobar Islands are near the shipping lanes approaching the Malacca Straits, whilst the Lakshadweep island lies across the Nine Degree channel. On average, 40 super tankers pass each day. Indian ports on the west and east coasts handle about 3,810 tankers carrying 84 million tonnes of oil annually.

1.4 India has run a 10 year programme to monitor pollution at 75 locations from the Gulf of Kutch to Bangladesh. Two research vessels monitor pollution at the sea surface and in the water column, and they have detected low levels of petroleum on the west coast near the major shipping lanes. In August, when currents run eastwards due to the monsoon, tar

balls are visible along the western coast. On the east coast where there is less traffic, the pollution is substantially less. Observations indicate that pollution from petroleum

hydrocarbons in Indian waters demonstrate a declining trend. However, the islands with coral reefs are more vulnerable to oil pollution from shipping than the mainland.

1.5 Land based activities contribute to the pollution of the marine environment in India as is the case in other countries. Under the umbrella of UNEP, India and four other neighbouring countries have action plans in place to mitigate degradation of the marine environment from land based activities.

2 Status of ratification of MARPOL 73/78

2.1 India has acceded to Annexes I and II of MARPOL 73/78. However it has not acceded to the optional MARPOL 73/78 Annexes III – VI.

3 Maritime activities including commercial shipping and fisheries

3.1 The Indian flag register currently totals 422 ships comprising approximately 7 million grt. About 100 of these ships are dry bulk and cargo carriers, with 92 oil tankers, 11 chemical tankers, 12 container ships and the remainder are passenger/cargo ships. Some tankers are constructed as segregated ballast tankers (SBT) or modified to operate in the clean ballast tanker (CBT) mode. Others are dedicated to petroleum product trading. Some 20 oil tankers of 25,000 to 40,000 dwt are engaged in coastal trade. Approximately 30% of the country's imports and exports are carried in Indian registered ships, whilst the remainder is carried by foreign flag vessels. Therefore, incentives exist to expand the Indian fleet trading internationally.

3.2 The 120 Indian fishing ports are used by more than 100 commercial fishing vessels of 20 metres length or more. Such vessels are registered and licensed for catches under the auspices of the ports/States that maintain the registers under the Mercantile Maritime Department. Some foreign fishing vessels are leased to Indian companies that unload the catches in Indian ports. Smaller vessels of 7 to 10 metres with sails and outboard motors are not registered. There are hundreds of thousands of smaller fishing boats operating in the coastal areas.

4 Administrative aspects

4.1 The governmental executive branches are located in the capital, New Delhi, with administrative divisions in the Republic's 25 states. The Secretary of the Ministry of Surface Transport of the Government of India has been delegated the power by the Ministry of Environment and The Mercantile Marine Department to enact rules and regulations pertaining to the prevention of marine pollution from shipping. The Ministry of Environment directs efforts in enforcing the Environment (Protection) Act, 1986, dealing with land based pollution of coastal and oceanic zones. The enforcing and policing agency for the prevention of land based pollution is the Central Pollution Control Board (CPCB) operating under the Central Government of India, and it is represented in all states and union territories. The fishery sectors are administered by the Ministry of Fisheries and Agriculture which has delegated vessels' registration, licensing etc. to the port authorities in the individual states.

4.2 The administration of the Ministry of Surface Transport includes a Shipping and a Port Wing. The Marine Administration, Directorate General of Shipping operating from Mumbai, falls under the Shipping Wing. The Indian Ports Association, located in New Delhi, functions under regulatory controls by the Port Wing, and its functioning body comprises the Chairmen of all major ports. The Indian Ports Association further delegates authority to the Chairmen of the Port Authorities in the individual states. These Chairmen, responsible for the ports' administration and pollution prevention from visiting ships, are controlled by a Board of Trustees for each port. The Chairman of each Port Trust is thus responsible for ensuring availability of port reception facilities for ship generated wastes and the operation of these.

4.3 The Directorate General of Shipping, Mumbai, and its Mercantile Department maintain the Indian Ship's Register, and issue the certifications required under the Merchant Shipping Act, SOLAS, MARPOL and other IMO conventions and ILO conventions. The Directorate has 57 surveyors with engineering and master mariner background, who are stationed in Indian ports to carry out ship inspections. India wants to ensure that visiting ships are operated in accordance with the standards as specified in the region's Memorandum of Understanding (MOU) for Port State Control to which India is a party.

4.4 The Coast Guard Headquarters, which is located in New Delhi, is duty bound to preserve and protect the marine environment of India and prevent and control marine pollution. The legislation that supports the Coast Guard activities are the Merchant Shipping Act, Environmental (Prevention) Act, 1986, and the National Oil Spill Disaster Contingency Plan, 1996 as amended (a year 2000 update is in progress).

4.5 The Coast Guard dispatches appropriate representation to attend IMO meetings and prepare legislative approaches to embrace IMO rules and regulation into national law. Important marine pollution issues e.g. contingency requiring action are prepared by the Coast Guard and channelled via the Ministry of Defence to the Ministry of Environment, who initiate appropriate steps on any implementation procedures.

5 Ports

5.1 General

5.1.1 India has 146 harbours of which 31 are commercial ports visited by cargo vessels. The 12 major ports in India are Kandla, Mumbai, Jawaharlal Nehru, Mormugao, New Mangalore, and Cochin on the west coast, and Tuticorin, Madras (Chennai), Vishakapatnam, Paradwip, Calcutta and Haldia on the east coast. A programme is in place for making additions or expanding ports. Each port trust is in overall charge of their own operation under the Major Port Trust Act, 1963, and the Indian Port Act of 1908. The port facilities are built under the auspices of the respective Port Trust on government owned land, and are leased out to private sectors for periods of up to 30 years.

5.1.2 India has corporations that own three oil companies namely, Indian Oil Company (IOC), Bharath Petroleum (BP) and Hindustan Petroleum (HP). These oil companies operate a total of seven oil refineries of which two are located in the Mumbai area. Petroleum products are partly distributed by a system of pipelines, which will be expanded in the future to enable transfer of products between refineries. The potential gross yearly refining capacity is 140 million tonnes of crude oil of which 100 million tonnes could be imported by tankers to terminals/berths located near the oil refineries. 50% of the country's

consumption of petroleum products are imported. In view of the planned increased capacity of the refineries and the expansion of the inland pipeline distribution systems, it is estimated

that in 5 years' time only crude oil will need to be imported. When that situation does occur, it is anticipated that the India will become an exporter of petroleum products.

5.1.3 Liquefied petroleum gas (LPG) are currently handled in ports and liquefied natural gas (LNG) operation as from 2003.

5.1.4 In India there are six ports which have modern container terminals. Some ports and terminals have a combination of multipurpose berths for liquids, containers and dry bulk cargoes such as coal, grain, iron ore, fertilisers and other cargoes. Kandla and Visakhapatnam are deep draft ports. Tuticorin is being dredged to also facilitate calls by large vessels in the future.

5.1.5 The building of a new port is planned some 24 km north of the Port of Chennai (Madras) at Ennore. This port will be dedicated to supplying coal to the thermal power station. Once the new port has been built, the Port of Chennai will be dedicated to meet any expansions required to accommodate anticipated increased traffic for containers, crude oil and petroleum products.

5.1.6 Statistics provided by the Indian Ports Association regarding the traffic handled at major ports (number of calls) are given below.

INDIA - VESSEL TRAFFIC : CATEGORY-WISE
1998-99 AND 1997-98
(IN NOs)

PORT	PERIOD	DRY BULK	LIQUID BULK	BREAK BULK	CONTAINER	TOTAL	OTHERS	GRAND TOTAL
CALCUTTA	1998-99	17	438	261	310	1,026	23	1,048**
	1997-98	13	393	245	341	992	18	1,010
HALDIA	1998-99	347	598	108	268	1,291	-	1,291***
	1997-98	370	597	74	234	1,275	-	1,275
PARADIP	1998-99	387	286	4	1	678	17	695
	1997-98	416	225	2	-	643	33	676
VISAKHAPATNAM	1998-99	600	582	190	93	1,146	49	1,514
	1997-98	607	618	213	68	1,506	65	1,771
CHENNAI	1998-99	534	481	260	422	1,697	64	1,761
	1997-98	542	515	261	446	1,764	73	1,837
TUTICORIN	1998-99	302	136	369	266	1,073	-	1,073
	1997-98	313	146	287	238	984	-	984
COCHIN	1998-99	53	398	141	377	969	144	1,113
	1997-98	53	383	121	312	869	134	1,003
NEW MANGALORE	1998-99	152	422	150	-	724	14	738
	1997-98	184	388	157	-	729	12	741
MORMUGAO	1998-99	366	195	18	29	608	18	626
	1997-98	262	155	35	31	483	-	483
MUMBAI	1998-99	100	805	621	696	2,222	-	2,222
	1997-98	112	804	681	812	2,409	12	2,421
JNPT	1998-99	72	160	5	656	893	81	974
	1997-98	53	86	1	422	562	72	634
KANDLA	1998-99	209	1,045	341	113	1,708	-	1,708
	1997-98	221	1,001	330	133	1,685	-	1,685
ALL PORTS	1998-99	3,035	5,506	3,233	2,485	14,259	392 *	14,651
	1997-98	3,250	5,351	3,035	2,390	14,026	437 *	14,463

NOTE: * LASH/PASSENGER/TUGS/NON-CARGO VESSELS. ** One vessel worked both as Dry Bulk and Break-Bulk.
*** 25 Dry Bulk vessels worked both as Mechanical and Conventional and 5 vessels worked both as Dry Bulk and Break Bulk

5.2 Jawaharlal Nehru Port (JNF)

5.2.1 The Jawaharlal Nehru Port (JNP) was commissioned in 1989 and is the newest and most modern port in India. It was constructed with the dual view of serving as a Hub Port for its region and of solving the congestion problem in Mumbai Port. The port handles 75% of all container traffic to and from India and accommodates arrangements for smaller feeder vessels to collect or discharge containers in transit to or from other ports in the region. The distance between the port and the pilot station is 10 nautical miles and this port has a designed channel depth of 11 metres below chart datum. Vessels with a laden draft up to 12 metres can access the port, provided they utilize the tidal situation which accounts for a mean sea level of 2.5 metres above the chart datum. Arriving and departing vessels to/from the JNP and Mumbai port are serviced by a modern Vessel Traffic Management System (VTMS). The port handles a yearly traffic in excess of 11 million tonnes composed of containers, dry bulk and liquid cargoes. The multipurpose berths handle imports/exports of iron ore products, food-grain and liquid cargoes. One self-propelled pollution control vessel with a carrying capacity of 250 m^3 is being used as a reception facility for oily wastes. The port has recently put in place an Emergency Action Plan prepared by the Indian Register of Shipping. The JNP Trust has embarked on a five year plan for the development of an integrated chemical terminal for handling all grades of chemicals including refrigerated liquefied natural gases (LNG) and pressurised liquefied petroleum gases (LPG) at an estimated cost of USD 550 million. The terminal is expected to handle a throughput of 8 million tonnes of all grades of chemicals. The project is contracted for development and operation on a Build, Operate and Transfer basis (BOT). The builders are contract bound to set up a reception facility and treatment plant for chemical wastes.

5.3 Port of Chennai

5.3.1 The Port of Chennai (Madras) has an inner and outer harbour with a dry-dock capable of facilitating maintenance of the port and other service crafts. Floating dry docks for ship repair facilities handle ships up to 40,000 dwt. Adjacent to the port is a dedicated fishing harbour while an oil refinery is located some eight km north of the port. The length of the entrance channel is about five nautical miles with a depth limitation of 18.6 metres below chart datum. The tidal range varies between 0.4 to 1.3 metres. Maximum permissible draft at the quays varies between 8 to 17 metres at the crude oil terminal that can accommodate tankers up to 130,000 dwt (Panamax/Suezmax). Currently nine million tonnes of crude oil is imported annually for processing at the refinery, which is expected to increase to 12 million tonnes. Further, dedicated international standard terminals handle containers, fertilisers, food-grain, iron ore, coal, raw granite blocks, crude oil and petroleum products. Chemicals are imported in containers.

5.3.2 The Port of Chennai is equipped with reception facilities and oil spill combat equipment including a multipurpose harbour vessel, an oil skimmer, inflatable booms, an oily water separator, oil collection tanks, oil absorbing pads, chemical dispersants with power sprayer, one tank farm of 4400 m^3 and one mobile tanker-trailer of 10 m^3 capacity for receiving waste oil from ships. The Chennai Port Trust recently introduced the Gazette notification of the Ministry of Environment and Forest of 1989, which provides that waste from paints is categorised as hazardous waste, by prohibiting chipping and painting work at ships' hulls whilst berthed in port.

6 Reception facilities/disposal of ship generated wastes

6.1 Port reception facilities for Annex I wastes were made available for ships some five to ten years ago in 11 major ports. Tankers may discharge ballast water in ports provided that the oil content conforms to the standards set in MARPOL 73/78 (15 ppm). Oily water treatment plants may discharge into the marine environment water separated out from oily water where the oil content is 10–15 ppm.

6.2 MARPOL Annex II chemical cargoes are landed in five ports by chemical tankers of approximately 20,000 dwt. Category "A" substances are imported in containers which greatly reduces the need for reception facilities. Thus the need for reception facilities for Annex II cargoes carried in bulk is considered to be rather limited. A large quantity of chemicals is imported in containers and is landed at the container terminals. However, this may change in the future with the port expansion programmes that opt for terminals designed for import/export of chemical cargoes in bulk.

6.3 Arrangements for garbage collection from ships exist and are operational in all major ports.

6.4 According to information provided to the consultant, the port reception facilities for oily wastes/dirty ballast/wash water are either under-utilised, or not used at all by visiting ships. Some facilities are thus made redundant, or are being used for other purposes in order to make use of the investments made. The Port Trusts have had consultations and discussions with the industrial sectors involved in order to encourage the use of the facilities, however, the situation remains unchanged. Further consultations involving a wider scope of high level governmental and broad industrial sectors for increasing the use of the facilities would thus be required.

6.5 Even the Chennai Port facilities, which include a pipeline from the crude oil terminal to the shore oily waste and de-ballasting tank, are not used very much, although the facilities appear to be adequate. The de-ballasting tank has a pipeline connection to the nearby refinery that reprocesses the oily wastes. A mobile tanker trailer can come alongside all types of ships that require reception facilities for oily wastes, but requests for its availability are limited. The tanker trailer empties all categories of oily bilge and tank wash water, slops and sludges collected from ships into the shore de-ballasting tank. Decanted water is drained from the tank and released into the marine environment after passing an oily water separator to ensure that its oil contents are less than 15 ppm. Garbage and oily wastes are collected free of charge from the quay, but a fee needs to be paid if garbage is collected using the garbage launch, e.g. from vessels at anchor. The costs of operating the reception facilities are included in the port fee structure. Passenger ships arriving appear to have onboard incinerators, which reduce the demand for garbage collection. The port also has an operational waste incinerator, whilst two others are redundant. The fact that final disposal of the oily waste and cargo slops is made directly to the oil refinery, without the involvement of any outside contracting partners, has many beneficial aspects. One is that customs formalities are commercially obviated, on the grounds that cargo slops otherwise might be regarded as cargo.

6.6 The Jawaharlal Nehru Port's 250 m^3 slop reception barge has not been used for five years, although its services would not incur any charge. However, the Customs of India operating in the port maintain that customs duty is due on cargo wastes when landed from ships. Another problem that needs to be addressed is that there is no system in place for the re-processing or final safe disposal of hazardous wastes collected from ships. A contractor company operates the garbage collection services and this runs smoothly at no direct costs to the ships. The Bombay Port Trust

has contracted a few companies to attend to the collection of ship generated oily wastes, but the final disposition/re-use of the quantities collected is not monitored.

6.7 Shipping companies that have requested the oily waste collection services in ports have sometimes found that facilities were not available, or that the procedures involved were cumbersome. As a consequence there seems to be some reluctance in requesting port reception facilities. Most of the tankers which have unloaded crude oil and petroleum products return to the Middle East Gulf for reloading. Although stipulations in charter party require vessels to arrive in loading ports with clean ballast only and slop free, in most cases tankers call at Fujaira for bunkering, or wait for cargo readiness for shipment. These delays provide the opportunity to rid vessels of slops, dirty ballast or tank wash water to self propelled reception barges, that are available at a low cost.

THE REPUBLIC OF MALDIVES

1 General shipping related country information

1.1 The Republic of Maldives consists of 1,990 islands grouped into 26 natural atolls which stretch from 7 degrees north to almost 1 degree south of the equator. The chain of coral atolls, 80 – 20 km wide and 860 km long, lie on the Laccadive-Chagos submarine ridge in the Indian Ocean. The islands' coastline totals 644 km with the atolls creating an archipelago of strategic location astride and along major sea lanes in the Indian Ocean. The terrain is flat with 80% of the area one metre or less above the sea level embraced with white sandy beaches. The total area of the Exclusive Economic Zone (EEZ) is approximately 859,000 km^2.

1.2 The Maldives contain extensive and largely intact undisturbed reefs, and comprises one of the most complex reef systems in the world. More than 15 sites have been designated by the Government as protected areas.

1.3 Environmental key issues are climate change, depletion of freshwater aquifers that threaten water supplies, management of solid waste and sewage, pollution control and managing hazardous wastes. The low altitude of these islands makes them very sensitive to sea level rise.

1.4 Tourism, Maldives largest industry, accounts for about 18% of GDP and 60% of the islands' foreign exchange receipts. Close to 0.5 million tourists visit Maldives yearly and this is increasing at a rate of 8% per year. Fishing and agriculture employ 25% of the labour force, services 21%, manufacturing and construction 21%, restaurant and hotels 16%, transport communication and others 17%. Other industries include fish processing, shipping, boat building, coconut processing, garments, woven mats, rope, handicraft coral and sand mining. Import commodities are consumer goods, intermediate and capital goods and petroleum products. Exported products are fish and clothing.

1.5 Commercial ships - including loaded oil tankers - pass the very fragile environments between the islands following international traffic patterns, through the *Eight Degrees*, the *One and a Half Degree*, the *Kaashidhoo* and the *Equatorial Channels*. Absence of sufficient aids to navigation for ships passing close to the islands cause concern.

2 Status of ratification of MARPOL 73/78

2.1 The Maldives is not a party to MARPOL 73/78. However, Maldives is a member of the Oil Pollution Convention of 1954.

2.2 During the Consultants' visit, they underlined to the Ministry of Tourism and the Ministry of Fisheries the importance of the Maldives to accede to MARPOL 73/78, and the benefit of this to the tourism industry and the fishing industry.

3 Maritime activities including commercial shipping and fisheries

3.1 The Maldives merchant marine consists of approximately 60 vessels totalling less than 100,000 grt. Most of these are dry cargo, container ships and ferries. The nation's fishing vessels are registered with the Ministry of Transport. All ratings serving on the ships are Maldivians. The register embraces two oil tankers less than 3,000 grt. The Maldives National Shipping Ltd is the main operator on the islands. The State Trading Organisation (STO) is a government commercial organisation that imports the islands' needs for petroleum products.

3.2 The Ministry of Fisheries and Agriculture has licensed some 1,500 fishing vessels called "dhonis" of less than 44 feet in length, 10 mother vessels and 17 fish collector vessels between 900-1,000 grt. The new fishing vessels are up to 75 feet long. The dhonis are allowed to fish within 75 nautical miles of the islands. Foreign ocean going fishing vessels are licensed to fish in the EEZ and pay royalties, but fishing has to take place outside the 75 nautical mile limit. The total annual catch is some 120 tonnes. The fishing industry employs 12,000 fishermen, and the yearly export of canned, frozen and dried tuna yields some USD 50 million. The Maldives Industrial Fisheries Company Ltd. (MIFCO) works in close co-operation with the Ministry of Fishing and Agriculture. It is committed to fishing using environmental friendly methods, such as pole and line fishing, which prevent over fishing and damage to coral reefs.

3.3 Foreign fishing vessels are fitted with transponders so that the Coast Guard can monitor their whereabouts at any time. The Maldives conducts an ocean research programme to monitor the condition of the reefs, the movements of fish and pearl culture.

4 Administrative aspects

4.1 The Maldives environmental laws protect the islands and marine environment from land based pollution. The first National Environment Action Plan (NEAP), formulated in 1990, represents a combined approach to managing and solving environmental problems and establishing the mechanisms for future sound management of the environment.

4.2 The Ministry of Home Affairs Housing and Environment provides for laws and regulations to protect fragile environments and to preserve the resorts. The Ministry of Transport is concerned with IMO matters and ensures that the national commercial fleet is operated in accordance with the IMO standards. The country has a Maritime Training Centre, which operates under the Maldives National College of Higher Education. The inter islands transport sector consists mainly of motor driven dhonis. All boat drivers need licenses for the boats' seaworthiness and certificate for the safety of navigation which must be renewed each year. This entails inspection of the boats.

4.3 The Ministry of Transport and Civil Aviation plans to have a programme for the Maldives to accede to MARPOL 73/78 in the near future. However, the requirement for the establishment of adequate reception facilities and financial aspects in that respect is, according to local information, causing concern.

4.4 The Coast Guard collaborates with the Ministries to monitor pollution of the marine environment. Patrol vessels are strategically stationed to overlook the fishing activities, and have the responsibility of attending to emergencies such as oil spills.

5 Ports

5.1 Malé has the main commercial port serving the islands and has a slip way and repair facilities for local small vessels. Gan is a small harbour in the southern part of the archipelago. Otherwise the fishermen reside and keep their boats in over 200 separate islands spread throughout 19 different atolls.

5.2 Malé can accommodate ships with drafts up to 9.5 metres and vessels up to 15,000 dwt. All types of cargo can be handled at berth except dry bulk cargoes, liquid petroleum gases and liquid natural gases. Container ships thus dominate the traffic. The anchorage can accept vessels with draft up to 25 metres. An anchorage is available for tankers carrying clean products that are lightered to smaller tankers of 200-2,000 grt. These tankers operate with segregated ballast tanks (SBT), use oily water separators and follow the MARPOL 73/78 standard permissible discharges of oil. The island of Funadhoo has a tank farm which is used to store kerosene, diesel, gas oil and jet fuel. Tankers anchor here and pump their cargoes ashore by means of floating hoses.

5.3 Some 600 vessels visit Malé each year. The greatest number of visits are made by container ships with 415 visits, followed by 105 visits by foreign flag fish/reefer vessels, 60 visits by oil tankers and 20 visits by passenger ships. The cargo ships come mainly from India, Sri Lanka and Singapore.

6 Reception facilities/disposal of ship generated waste

6.1 The Maldives does not import heavy oils. Petroleum products such as fuels are mostly imported in drums for internal distributions to the islands. Malé Port Authority consequently has no slop reception facility.

6.2. A system for the collection of garbage from visiting ships is in place. Illegal dumping of hazardous wastes is subjected to heavy fines. The local shipping agents cater for the needs of ships and arrange for a collection of food, maintenance work, and cargo-associated wastes, by using dhonis for ships at the anchorage, or trucks for the ships at berth. Ships are charged less than USD 80 for each collection and disposal at anchorage.

6.3 The Maldives strictly forbids the dumping or discharge of refuse, bunker oil, sewage and noxious substances in its waters. Dirty ballast and slops may not be discharged to sea or land.

6.4 The second National Environment Action Plan, which identifies the environmental priorities and policy directions for the next 5 years, provides *inter alia* that facilities should be established to collect oily wastes, chemical wastes, and garbage at ports, fishing harbours and marinas. An island near Malé is used as a garbage dumpsite and there are plans that it will be developed into an industrial zone. Limited land makes the option of landfill disposal questionable in the long term. In the future, sophisticated waste incinerators could be acquired that could provide for the safe disposal of flammable liquid wastes as well as garbage, and could yield thermal energy for power generation. Incineration, while reducing the volume of wastes, is currently seen prohibitive in terms of costs and requires the disposal of ash. The islands collect some waste oils in drums which are shipped to Singapore for recycling. Vessels carrying these drums travel to this port to meet regular dry docking and upkeeping requirements.

UNION OF MYANMAR

1 General shipping related country information

1.1 Myanmar has a coastline of 2,833 km and borders the Andaman Sea and the Bay of Bengal. The country has 12,800 km of waterways navigable by large commercial vessels.

1.2 The merchant marine totals some 40 ships aggregating approximately 0.5 million grt. Export goods are mainly beans, teak, rice, rubber and hardwood. Import commodities include machinery, transport equipment, construction material, food products, crude oil and petroleum products.

1.3. The northern coastline of Myanmar is low-lying and the influence of the sea is felt for a long distance inland. It is characterised by a deltaic network, with discharge of sediment-laden water which form offshore sand and mud bars. Extensive stands of mangroves are found in this area and on the offshore islands. The main reef areas lie off the southern coast of Myanmar on the Mergui Archipelago consisting of some 800 islands.

1.4 There are no industries close to the river banks and the water is considered to be almost unpolluted although laden with sediment. Garbage and debris are hardly visible on the river. The authorities consider that there is no oil or garbage pollution from visiting ships. A contributory factor to the favourable condition of the water quality is that the rivers are deep with a huge water flow due to the tidal conditions.

2 Status of ratification of MARPOL73/78

2.1 Myanmar has ratified MARPOL 73/78 Annexes I & II.

2.2 The IMO Consultants were informed that sufficient capacity has not been available to embrace MARPOL 73/78 and its requirements into national law and regulations.

3 Maritime activities including commercial shipping and fisheries

3.1 Commercial shipping in 1999 embraced approximately 40 ships totalling approximately 500,000 grt. Of these two are oil tankers and 26 dry bulk, general cargo and container ships. Myanmar operates an open ship's register.

3.2 The average size of the ocean going fishing vessels is 500 grt. The smaller fishing vessels operating close to shore have diesel or petrol driven engines. No figures regarding the size of the fishing fleet was obtained.

4 Administrative aspects

4.1 The Ministry of Transport regulates shipping aspects, port operations and inland water transport. The authoritative body for the registration of fishing vessels and fishing licensing is the Ministry of Livestock and Fisheries. The governing legislation for shipping is the Myanmar Merchant Shipping Act. Moreover, ships have to operate in accordance with the international safety and marine pollution conventions. Furthermore, the ports' operation is delegated to the Port Authorities.

4.2 Any deficiencies, offences or non conformity of a vessel's compliance with international and national rules and regulations are reported by port authorities to the DMA, which is the authoritative body to take appropriate action.

5 Ports

5.1 The country's two main ports are Yangon and Thilawa Port. The latter port was established a few years ago, 16 km down stream from Yangon, when further expansion of the Yangon port became restricted. Both ports are accessible to vessels of 15,000 dwt. with a draft restriction of nine metres. The average tidal range is about 5.9 metres at spring tide and 2.6 metres at neap tide. The velocity of the current is four to six knots at spring tide.

5.2 Yangon port handles all imports and more than 90% of the country's exports. Yangon Port has thirteen international berths and more than forty jetties, mainly floating pontoon types to cater for domestic traffic located along six km of the river front. These handle coal, rice and mostly domestic traffic. Most of the berths are old and obsolete, requiring upgrading to cope with the increase in cargo output. During the last five years five container and general cargo wharves have been built. Yangon has two dockyards located on the opposite sides of the river. Regular maintenance dredging is carried out in front of wharves and jetties and at the entrance channel between an inner and outer bar, by means of grab dredgers and split type hopper barges.

5.3 To cater for possible future developments at Thilawa, 17 plots of water front area each measuring 200 metres have been reserved for potential local and foreign investors. This port will consist of container, liquid bulk and solid bulk wharves, timber handling berths and general cargo berths.

5.4 Eight ports known as out-ports, namely Sittwe, Kyaukpytu, Thandwe, Pathein, Mawlamyine, Dawei, Myeik and Kawthoung were developed to cater for the coastal and inland-waterway traffic. All ports accommodate fishing vessels.

5 5 The general ship traffic pattern is dominated by the large number of feeder vessels operating between Singapore and Yangon, as the main port for the importation of goods. The table given below indicates the traffic pattern as from April 1999 to March 2000.

Traffic pattern - All Ports (April 1999 – Mars 2000)

Type of vessel	Yangon	Out Ports	All Ports
Oil tankers	244	132	376
Chemical tankers	-	-	-
General cargo	587	477	1,064
Container vessels	268	-	268
Bulk carriers	28	-	28
Passenger vessels	137	133	270
Fishing vessels	74	229	303
Total	**1,338**	**971**	**2,309**

6 Reception facilities/disposal of ship generated wastes

6.1 There are no reception facilities available for the reception of oily wastes from ships in Yangon. According to local information sources, some collectors of oily waste exist in Yangon, but there is no procedure or authorisation system in place for this.

6.2 As chemical cargoes land in containers, there is at present no need for reception facilities and treatment facilities for waste from MARPOL 73/78 Annex II cargoes. On the occasions when chemicals have arrived in bulk, such cargoes have been transferred to smaller feeder vessels for inland distribution at the explosive anchorage.

6.3 Notwithstanding that Myanmar has not acceded to MARPOL 73/78 Annex V (garbage), Yangon has in place a system for garbage collection managed by the Yangon City Development Committee (Municipality).

THE ISLAMIC REPUBLIC OF PAKISTAN

1 General shipping related country information

1.1 Pakistan has a coastline of 1,046 km bordering the Arabian Sea. Numerous deltas and estuaries with extensive inter tidal mudflats and their associated wetlands occur along Pakistan's coastline. The Indus delta has an estimated 3,000 km^2 of delta marshes with vast areas of mangroves. Rocky shores are also a major feature in Pakistan along with sandy beaches.

1.2 The main industries embrace textiles, food processing, beverages, construction materials, clothing, paper products, tanneries, leather goods and shrimp. Main export commodities are cotton, wheat, rice, molasses, fruits, vegetables, milk and beef. Import commodities include crude oil, petroleum products, machinery, transportation equipment, vegetable oils, animal fats and chemicals.

1.3 The Indus and other rivers are monitored for organic/chemical pollution, industrial discharges, thermal pollution and oil spills. High oxygen demands, high water and sediment toxicity and high phenolic concentration have all contributed to loss of biodiversity, decaying mangroves and other ecological damage. These pollutants reach the coastal waters along with the tidal currents forcing the marine life to migrate offshore.

2 Status of ratification of MARPOL 73/78

2.1 Pakistan acceded to MARPOL 73/78 Annexes I and II and accepted Annexes III to V of the Convention. It is placing emphasis on the obligation to ensure availability of adequate reception facilities as required by the Convention.

3 Maritime activities including commercial Shipping and fisheries

3.1 The current national merchant marine consists of some 14 ships aggregating approximately 400,000 grt. The composition of the fleet is mainly dry bulk, general cargo ships and one oil tanker. These vessels operate in strict compliance with the IMO standards.

3.2 Four oil companies that handle the import/export of crude oil and petroleum products, including the inland distribution, operate in Pakistan. These are the Pakistan State Oil, and joint ventures of CALTEX, SHELL and PARCO (Pak.Ara.Co.). The state operates the four oil refineries in the country.

3.3 The licensing of fishing boats falls under the Ministry of Fishing. There are between 8,000 to 9,000 fishing boats in operation with a length below 24 metres, and five larger fishing vessels chartered in from Taiwan, S. Korea and China. Some 2,000 fishing boats are normally in the Fish Harbour in Karachi.

4 Administrative aspects

4.1 The Director General of Ports and Shipping reporting to the Ministry of Communication is responsible for the operations of the ports and shipping. Moreover, he is responsible for delegating the training of personnel to the Pakistan Marine Academy and the Seaman Training Centre. The Ministry deals with all IMO issues, and has ensured that the applicable IMO Conventions' standards are embodied into national law. The Ministry of Foreign Affairs communicates with the IMO. However, the authorities in Karachi nominate the key personnel that represent the nation at IMO meetings. The Technical Section of the Director General of Ports and Shipping deals with maritime safety, protection of the marine environment, certification, surveys, statutory rules, port state control, shipping casualties and investigations. The Mercantile Marine Department registers the national fleet, and employs surveyors for statutory survey and Port State Control. A Directorate under the Director General of Ports and Shipping deals with ports, marine transportation, development programmes and the recruitment of seamen. The country provides qualified seafarers for employment in international commercial fleets.

4.2 The Pakistan Environment Protection Act 1997 deals with air and water pollution. The Ministry of Environment has the overall authority to legislate through this Act. All national decision making processes are performed at governmental levels in Islamabad. The drafting of legislation affecting shipping and the ports is done under the auspices of Director General of Ports and Shipping. Three applicable laws should be noted; they are:

i) The Merchant Shipping Act, 1923;
ii) The Pakistan Merchant Shipping Law, last amended in 1998 to include prevention of water pollution from ships; and
iii) Laws covering port operations.

4.3 The Chairman of the Marine Pollution Control Board implements and monitors rules and regulations for marine pollution control. The Board meets twice a year. The Environment Protection Agency operates under the Ministry of Environment to monitor pollution control from shore based activities and sets emission standards for the industries. The Maritime Security Agency (MSA), with its headquarter in Karachi, operates under the Ministry of Defence and is the responsible pollution control authority outside harbours and within the EEZ. It plays a coast guard role operating units of large sea-going surface crafts and helicopters. The MSA deals with the combating of accidental oil spills outside port limits.

5 Ports

5.1 Karachi Port

5.1.1 The Karachi Port Trust Act dates back to 1908 and the port covers an area of 62 km^2. The Karachi Port Trust (KPT) is responsible for the operation of the port which consists of 29 dry cargo/container berths and 3 dedicated oil piers capable of accommodating tankers of up to 75,000 dwt. Chemicals in bulk are also landed at one of the oil piers. In 1995 some 1,900 ships called at the Karachi port after which traffic has declined slightly with 1,625 calls including 446 tankers in 1999. Eleven million tonnes of liquid cargoes including petroleum products are imported yearly. One dry cargo berth also handles tankers dedicated to the importation of lubricants and palm oils, and the exportation of molasses in bulk.

5.1.2 All ships calling at Karachi are inspected by the Marine Pollution Control Department (MPCD) of the KPT in line with MARPOL 73/78. Through this inspection it is ensured that ships do not cause any pollution of the harbour. Records related to the production and disposal of oil sludge/plastics during the past six months are checked to verify if ships have illegally discharged such waste at sea. The ships' bilges and overboard valves need to be kept chained and locked whilst in the port. The performance of oily water separators is checked. Since 1997, 82 ships have been penalised for illegal discharges. According to local information, floating patches of visible oils, that were previously commonly sighted, have almost vanished.

5.2 Port Qasim

5.2.1 Port Muhammad Bin Qasim (Port Qasim) is operated by the Port Qasim Authority under the Port Act of 1973. Situated some 50 km west from the city of Karachi, it is a modern integrated seaport catering for warehousing, transhipment, and transit trade to and from neighbouring countries in the region. It caters for the import of finished or semi-finished products in bulk and export thereof to individual markets after repackaging, or processing. A 45 km long navigable channel with a minimum depth of 11 metres can accommodate ships up to 75,000 dwt. The difference between high and low water can be as much as 3 metres causing strong tidal currents of 5 - 7 knots. Seven multipurpose berths with supporting infrastructure and back up facilities have been operational since the beginning of 1983. A bulk oil terminal started operation in 1995 to handle imports of furnace oil. Since 1997 a two berth container terminal capable of handling gear-less container vessels has been available. A jetty for the handling and storage of chemicals and chemical products in bulk became operational in the same year. Dedicated separate terminals are operational for the handling of liquefied petroleum gases (LPG), grain, fertilisers, edible oils and molasses. The total throughput of cargoes (imports/exports) was approximately 133 million tonnes in 1999. The port was visited by 482 ships of which 115 were container vessels, 73 carried furnace oil, 60 chemical/LPG cargoes, 40 iron ore/coal and the remaining 194 used the multi-purpose terminals which are also used for the export of some 310,000 tonnes of crude oils. Statistics provided by the Gulf Agency affirm that 684 vessels, of which 272 were tankers, visited the port in 1999.

5.2.2 Adjacent to the port is 12,000 acres of land designated for port reliant industries with associated commercial capacities. The port therefore has immense potential for expansion and up scaling in terms of number of berths and drafts in its navigable channel.

5.2.3 The Port Qasim Authority has an Oil Spill Contingency Plan with an on the scene commander in place. Adjacent to the port is one of the country's large mangrove forests rich in fish and other fauna. The surrounding islands and creeks are looked upon as having great

potential for tourism. The vast potential for tourism development and the conservation of the environment means that the safety of shipping and accident prevention are of the utmost importance.

6 Reception facilities/disposal of ship generated wastes

6.1 The Ports of Karachi and Qasim both have in place operational reception facilities for oily wastes and garbage, although these are not associated with "on site" facilities. Ships calling at the ports need facilities where they can discharge their oily wastes, plastic material and garbage. The facilities provided to ships inside the port are done through ten private contractors for oil collection and five for garbage collection which are licensed by the Conservators of the Port's Trust for that purpose. The contractors use tank wagons to collect oily waste and lorries to collect garbage from ships alongside berths. The port authorities do not allow oil collection barges to be used for this service. The activities of the contractors from the time of receiving the waste to its final disposal are monitored by the Marine Pollution Control Department.

6.2 A practice for due consideration is the Customs' rule that if the oily residues are being sold for reuse as fuel in brick manufacturing, or lubricants for small workshops industries, then a small amount of dues is payable by the contractors. If such oils find no commercial use, then dues are not charged by the Customs. The same would apply to garbage, such as wooden dunnage material. No fee is payable by the ships for the delivery of oily waste, but a small charge is made for the garbage collected.

6.3 Most chemical cargoes are landed in bulk by tankers in quantities of 10 - 15,000 tonnes. For MARPOL 73/78 compliance, an analysis of the need for reception facilities for Annex II MARPOL 73/78 chemicals and oily waste and tank wash water are needed in both ports. Arriving tankers that load crude oil and naphtha appear to come ballasted and in a segregated ballast mode of operation (SBT), which should obviate the need for disposing of dirty ballast. But smaller coastal tankers may need facilities to get rid of dirty ballast and tank wash water.

6.4 The Karachi Port Trust has earmarked a site for shore reception facility which is in the process of planning. There is an incinerator of 120 kg./hr. capacity fitted in the port to deal with garbage.

6.5 The Port Qasim Authority has in place a plan to build a shore reception facility and treatment plant, capable of accommodating the needs of the visiting tankers at the oil and chemical jetties. Land areas are earmarked for this purpose, and the facility with adequate tank capacity will form part of the oil spill combating system to deal with any oily water collected from cleaning activities.

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

1 General shipping related country information

1.1 Sri Lanka is an island located in the Indian Ocean consisting a coastline of 1,770 km. In the declaration of the Exclusive Economic Zone in 1976, the country has got the sovereign right over 534,000 sqr. km. in the sea. The fishing fleet of the island consist of 30,000 different fishing crafts of which 20,000 are mechanised. The coastal and the marine environment of the island is being degraded due to both land based and sea based pollution specially sewage, urban waste, industrial waste and oil coming from both commercial ships and shipping crafts. The national solid waste management strategy has been approved by the Parliament and is being implemented.

1.2 The country has 430 km. of inland waterways that are navigable by shallow draft crafts. There are 62 km of crude oil and petroleum product pipelines. The waters surrounding Colombo suffer from severe degradation, caused by sewage, oil and other industrial pollutants being released into the sea through the city's water canal systems, amongst other sources.

2 Status of ratification of MARPOL 73/78

2.1 Sri Lanka has acceded to MARPOL 73/78 Annexes I and II, and it has accepted Annexes III, IV and V of the Convention.

3 Maritime activities including commercial shipping and fisheries

3.1 The national commercial fleet consists of 52 vessels aggregating some 250,000 grt. These embrace 24 general cargo/container ships, 2 tankers, 13 fishing vessels/trawlers, 1 dredger, 3 tugs, 2 research vessels and 7 yachts. They operate under the Merchant Shipping Act, 1971, and comply with the IMO safety and marine pollution conventions. Sri Lanka is a member of Indian Ocean MOU on Port State Control.

3.2 There are some 1,500 artesanal fishing boats operating around the coast. The Ministry of Fisheries provides licenses to ocean going foreign flag fishing vessels to fish within the EEZ. Mother vessels collect the catches and transfer these to shore. There are 8 fishing harbours in Sri Lanka, and two more are under construction. The total catches per year are about 250,000 metric tonnes of which 163,000 tonnes come from deep sea fishing, and the remainder from coastal activities. There is no restriction on fishing zones. Forty foot vessels and above generally fish in international waters for about a month at a time. Vessels of 3.5 grt. can fish within the EEZ for up to seven days at sea. The smaller vessels generally spend 1 to 2 days at sea.

4 Administrative aspects

4.1 The Marine Pollution Prevention Act No, 51 of 1981 has designated the Marine Pollution Prevention Authority (MPPA) as the "Agency" having overall authority over activities relating to marine pollution. Among its current major activities are:

- Complete revision of the national legislation.
- Implementation of the MARPOL 73/78 Convention.
- Infrastructure strengthening with assistance from the Government of Norway.
- The implementation of National Oil Spill Contingency Plan.
- Countrywide awareness programme.
- Establishment of regional pollution prevention units.
- Redefining the role of the Authority including changing of its name to Marine Environment Protection Authority.

4.2 The Central Environment Authority (CEA) dealing with land based pollution comes under the auspices of Ministry of Environment. The same applies to the National Aquatic Resources Agency (NARA). The Wild-life Administration comes under the Ministry of Home Affairs & Public Administration. The Merchant Shipping Directorate comes under the Ministry of Shipping & Shipping Development. The Ports comes under Ministry of Ports Development Rehabilitation Reconstruction. Discussions with focal points revealed that the various sectors worked independently on environmental issues.

5 Ports

5.1 The three main ports are Colombo, Galle and Tricomalee. The table below shows the flow of traffic through these ports during the 12 month period from April 1999 to May 2000:

Yearly traffic patterns - main ports

Port	Oil/ Tankers	General Cargo	Bulk/ Carriers	Cement/ Carriers	Container	Passenger
COLOMBO	18 vessels at SPBM 15 vessels at SLPA Terminals	875			2,625	10
GALLE			18	30		
TRINCOMALEE			Prima Terminal receives about 20 bulk wheat vessels.	40		

5.2 Colombo Port has been steadily growing and modernising. Covering an area of 201 hectares, it has a total berth length of approximately 4 km, mainly consisting of container, cement, general cargo and grain terminals with drafts varying between 8 and 14 metres. One tanker terminal is used for the import of petroleum products. A new container terminal is under construction. The offshore single buoy mooring point is used for the import of crude oil unloaded from large tankers. A new conventional mooring buoy was commissioned 2 nautical miles of the coast of the port of Colombo to handle gas carriers.

5.3 Trincomalee Port covers an area of 2,023 hectares and has a total jetty length of 700 metres with alongside drafts varying between 6 and 10 metres.

5.4 Galle Port covers an area of 320 hectares, and the total jetty length is 260 metres with an alongside draft of 7.3 metres.

6 Reception facilities/disposal of ship generated wastes

6.1 A streamlined reception facility system is available for all ports. This system is operated by MPPA registered contractors (year 2000 - 14 contractors/ all ports), whose activities are monitored by a clearing approval document system. The system has been kept as simple as possible in keeping with MARPOL 73/78 recommendation, and have adequate supervision during the ship to shore operations by the harbour safety section and the MPPA.

6.2 Local trading pattern does not require any reception at the moment for bulk chemicals. The oil trade is one of importation thereby avoiding the requirement for tanker ballast water reception.

6.3 The waste received is not treated at any treatment facility. Oily waste is recycled after primary separation, while garbage join the municipal waste stream where scavengers may recover some material for recycling. No proper disposal standard is maintained. This situation is scheduled for change soon with implementation of the National Environmental Act, that has in its provision laws requiring treatment system for waste prior to disposal.

6.4 There appears to be no national system in operation for the collection of hazardous (oily) waste from petroleum driven vehicles/boats. There are oil refineries, thermal power plants and cement factories that commercially should be able to dispose of oily waste. Colombo has a population of about 1 million people, and is already facing a capacity shortage of available garbage dumpsites. Therefore, environmental gains could be made by providing incinerators that could generate thermal power. When in place, these could be associated with reception facilities to be provided for under the MARPOL 73/78 Convention. Sri Lanka has a system in place for attracting foreign investors that jointly with local entities can build duty free industrial plants under its Board of Investment. This might be useful in situations where the lack of funding is an obstacle to the provision of adequate reception facilities in ports.
