

Land-Based Sources of Marine Pollution Control: Problems and Future Challenges

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OCEAN ENVIRONMENT

Importance of oceans

Various unsustainable activities

- Overexploitation of resources for ocean industrialization
- Conflicting human activities-mineral extraction-illicit and unethical trafficking- commercial exploitation
- Sector by sector management
- Marine Pollution
- As one of the most significant threats to marine life- pollution (particularly LBSMP) dramatically affecting the health of the oceans
- Cumulative and combined impacts on the marine environment
- Put the oceans and marine ecosystems at risk of irreversible damage
- **Sources of LBSMP**

Plastic Litter



Plastic Litter

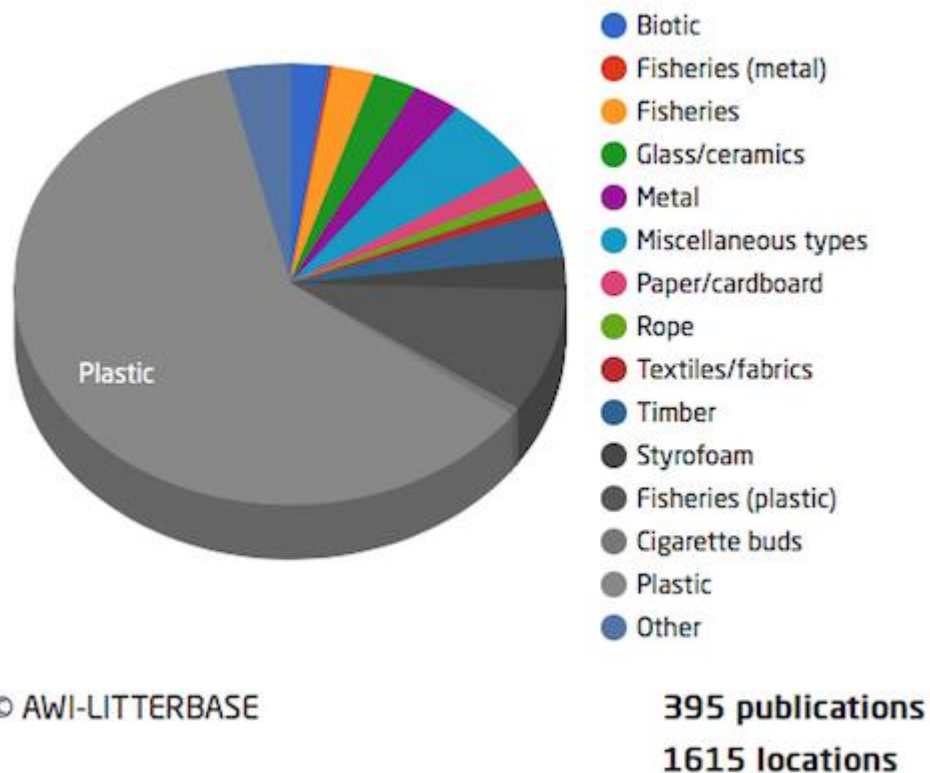
- The highly persistent, non-biodegradable and easily transportable plastic litter inputs - amount to approx. 10 million tons per year.
- Each year around 150,000 tonnes of synthetic fishing gear, including nets, ropes and floats are lost or discarded in the ocean- includes plastic bags, bottle tops, ropes, cords, containers, household, industrial wastes and others.



- Dead whale -stomach & intestines are destroyed by 64 pounds of plastic



Global composition of marine litter



Proportion of marine litter categories on reference beaches

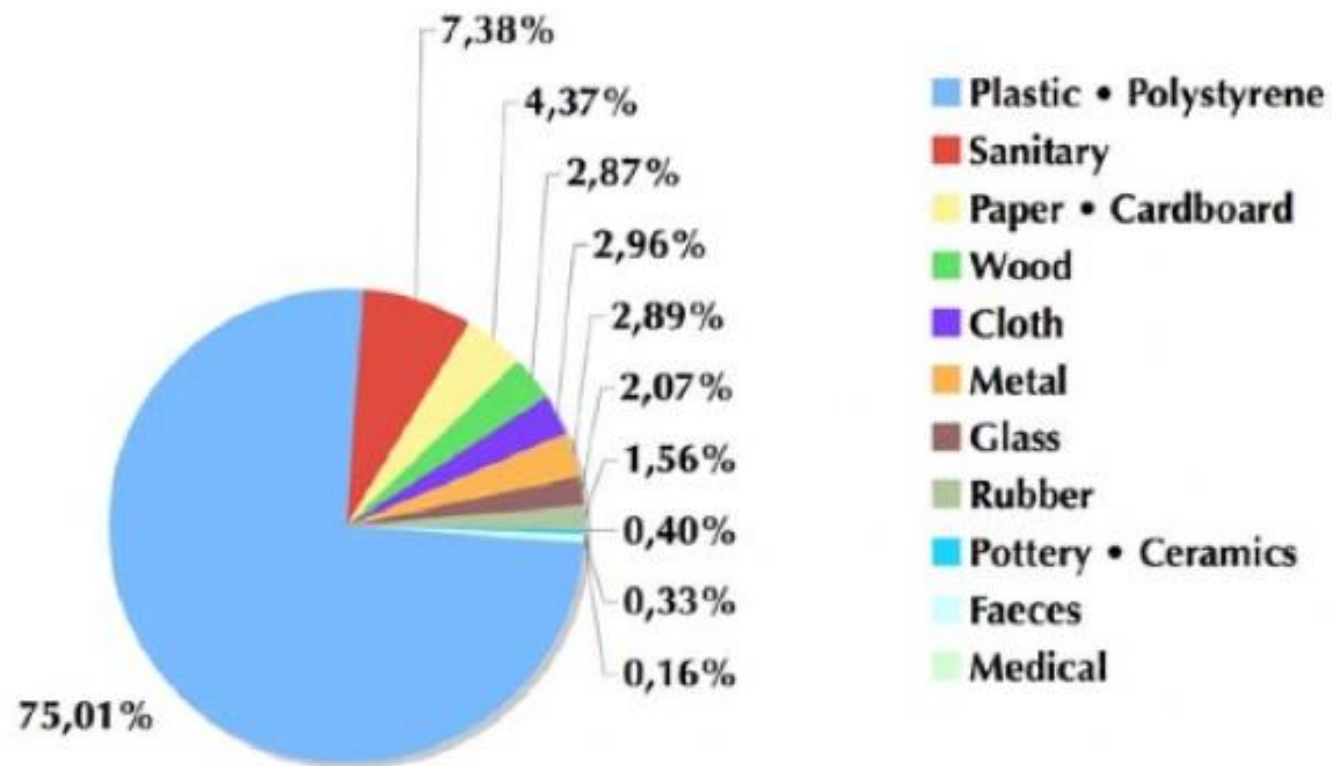


Fig. [OSPAR Commission \(2009\)](#).

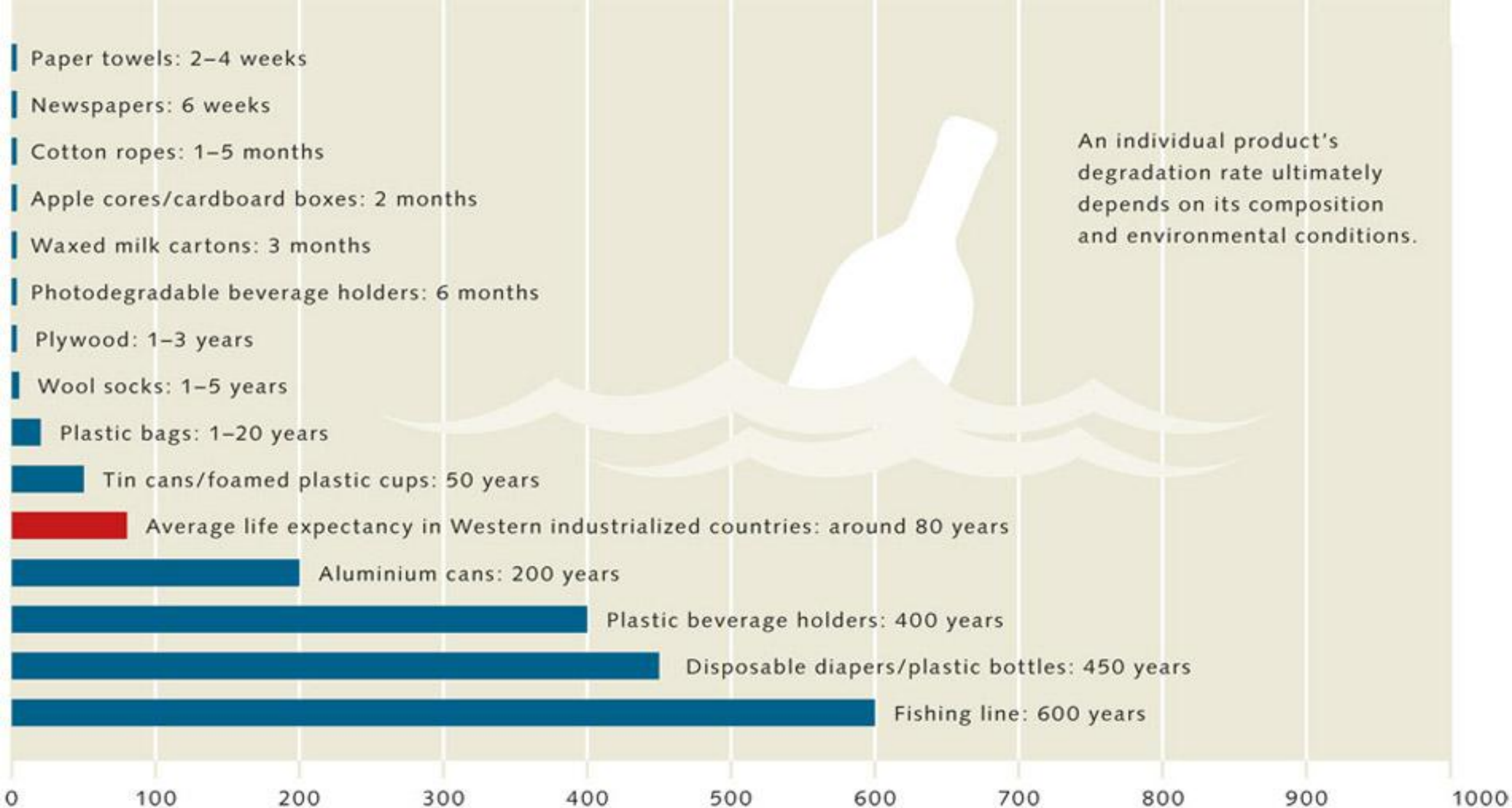
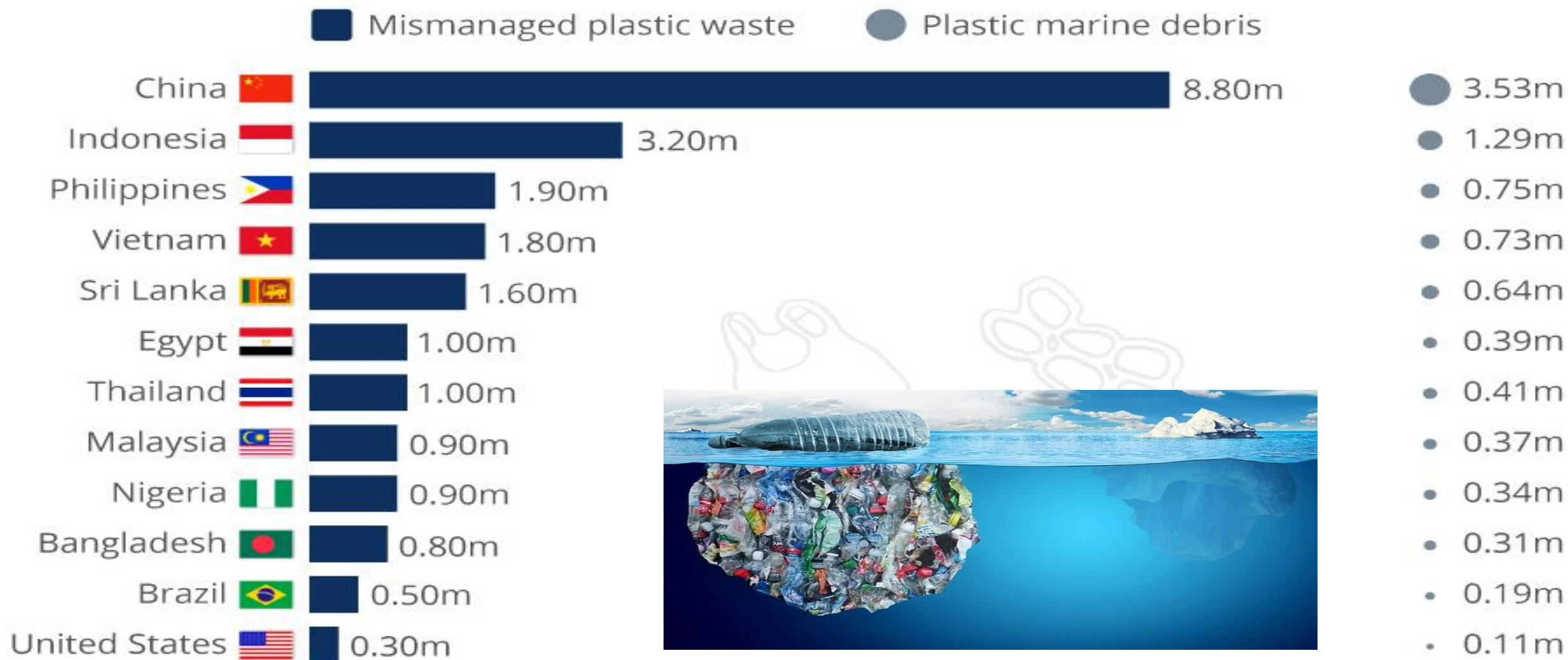


Fig. World Ocean Review (2010).

The Countries Polluting The Oceans The Most

Annual metric tons of mismanaged plastic waste and total amount ending up in global waters*



Land-based pollution with micro plastics

Over 400 million tons of plastic are produced globally each year.

Plastic disintegrates into particles smaller than five millimeters, referred to as microplastics, and breaks down further into nanoparticles, which are less than 0.1 micrometer in size.

Sewage, for example, is an important factor in the distribution of microplastics.

80 to 90% of the particles contained in sewage

Legal Regimes of LBSMP Control



CIL- Early Development

- The principle of good neighbourliness
- These principles only addressed cross-jurisdictional impacts- not domestic impacts,- left issues surrounding national marine pollution control to the will of sovereign States.
- This shortcoming CIL resulted in the call for the creation of conventional and instrument-driven international law on the issue of LBSMP.
- This in turn paved the way for new beginnings in the international control of LBSMP to emerge from the 1970s onwards.
- The 1972 Stockholm Conference, is often regarded as the beginning of a new journey of hope reflecting the commencement point in the genesis of international environmental law.
- The Conference addressed all aspects of the human environment through the adoption of the Stockholm Declaration as well as a corresponding Action Plan.
- Reflected a strong sense of dedication by States in establishing the basic rules of international marine environmental law.

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- For the first time the urgent necessity for control of marine pollution was explicitly recognised by international law.
- Principle 7 of the Stockholm Declaration specifically obligates States to prevent marine pollution. Since then many hard law and soft law instruments at global as well as regional levels have been concluded relevant to LBSMP control.
- Instruments adopted include: the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matters; the 1982 United Nations Convention on the Law of the Sea; the 1985 Montreal Guidelines for the Protection of the Marine Environment from Land Based Sources; the Rio Declaration on Environment and Development of the 1992 United Nations Conference on Environment and Development; Agenda 21 of the 1992 United Nations Conference on Environment and Development; the 1985 Montreal Guidelines for the Protection of the Marine Environment from Land Based Sources of Marine Pollution; and, the 1995 Global Programme of Action for the Protection of the Marine Environment from Land Based Sources (GPA) and so on.

The role of treaty instruments

- ***United Nations Convention on the Law of the Sea 1982 (LOSC)***
 - The LOSC is an outstanding example of a treaty that carefully balances the competing interests of maritime and coastal States.
 - **Part XII**
 - Article 192 commences with a general recognition that all States have the duty to protect the marine environment. Article 194 expands on this duty.
 - Article 207 the LOSC obligates States to: take into account internationally agreed rules, standards and recommended practices and procedures; endeavour to harmonise their policies at the appropriate regional level; and, act through the competent international organisations or diplomatic conferences to establish rules to control LBSMP.
 - The LOSC emphasises cooperation with respect to the protection of enclosed and semi-enclosed seas. Comprehensive management system with the application of sustainable management principles?

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- ***The 1972 London Dumping Convention***

- The Convention is relevant to the control of LBSMP as most marine dumping is of land generated industrial waste or land dredged silt.
- In 1996 a Protocol to the London Convention was adopted which enhanced environmental protection of the regime through the requirement of a precautionary approach.
- The Protocol widens the ambit of “dumping” so as it includes the deliberate disposal of wastes into the sea; and extends to the storage of wastes or other matter on the seabed and sub-soils and the abandonment at sea of platforms or other man-made structures.

The sustainability instruments

•*Sustainable development*

- The United Nations Conference on Environment and Development (“UNCED”) also known as the Earth Summit, was convened in 1992, at Rio de Janeiro.
- The Earth Summit was convened exactly 20 years after the historic Stockholm Conference of 1972 and provided the international community with the opportunity to establish new environmental priorities. At the Earth Summit important treaties were adopted on climate change and biological diversity
- A number of soft law instruments were adopted, in particular the Rio Declaration on Environment and Development (Rio Declaration) and Agenda 21.

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- ***Rio Declaration***

The Rio Declaration is important in its identifying the key principles necessary for States to implement in their attainment of sustainable development. The Rio principles of sustainable development are to be utilised by States through their implementing strategies and programs for environmental protection and resource conservation.

- ***Agenda 21***

Chapter 17 of Agenda 21 titled 'Protection of the Oceans, all Kinds of Seas, Including Enclosed and Semi-enclosed and Coastal Areas, and the Protection, Rational Use and Development of their Living Resources' is devoted to the protection and preservation of the marine environment along with a number of useful recommendations to prevent, reduce and control LBSMP. These include: the application of preventive, precautionary and anticipatory approaches to avoid degradation of the marine environment; prior assessment of activities which have significant impacts upon the marine environment; the integrated protection of the marine environment; and the development of economic incentives to apply clean technologies and the application of the polluter pays principle.

Instruments specifically dealing with LBSMP

- ***Montreal Guidelines***

- Focused on more prescriptive standards for LBSMP control
- As an initiative of the Governing Council of the UNEP, the *Montreal Guidelines for the Protection of the Marine Environment from Land Based Sources of Pollution* (Montreal Guidelines) were adopted in 1985 with a view to assist States in the process of developing appropriate bilateral, regional and multilateral agreements and in particular, national legislation for the protection of the marine environment from LBSMP.

- ***The GPA 1995***

- In direct response to the recommendations made in Chapter 17 of Agenda 21 the Conference on the Protection of the Marine Environment from LBSMP was held in Washington in 1995 - Washington Conference-UNEP
- The aim was to develop a Global Programme of Action to Prevent, Reduce and Control LBSMP (GPA). The GPA provides valuable insights as to what is needed to deal more effectively with the LBSMP problem and how States might be persuaded, encouraged or assisted.
- Provides certain criteria to ensure successful implementations of its programme, such as: establishing and strengthening regional and global networks; encouraging and facilitating interregional cooperation; and establishing and supporting the necessary Secretariat services for regional cooperative arrangements.
- Initiated and proposed a coherent strategy and methodology to develop programmes of action at national, regional and international levels
- Established links between various GPA activities and integrated legal, economic and technological policies.

The regional regulation of LBSMP-importance of regionalism

- The effects of LBSMP are highly specific for different regions.
- Due to their special hydrographical and ecological characteristics, as well as the predominant patterns of industrial and economic development the nature and scope of land-based pollutants differ from region to region.
- This is particularly true in shallow, enclosed or semi-enclosed seas, as they are especially sensitive and receive substantial contamination from the land and coasts- the Gulf of Mexico, the Gulf of Thailand, the Baltic Sea and the South China Sea are examples.
- The regional approach has proven to be enormously attractive, and to a certain extent, successful for LBSMP since the late 1960s.
- The 1969 *Bonn Convention on the Prevention of Pollution of the North Sea*, 1969, was the first regional legal regime for marine pollution control. This was followed by the *Paris Convention on the Prevention of Marine Pollution from Land-based Sources*, 1974, and the *Convention on the Protection of the Marine Environment of the Baltic Sea Area*, 1974.
- **Subsequent developments**

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- ***The regional seas programme***

- The RSP is the cornerstone of the oceans management program in various regional seas of the world's oceans and at present it includes 16 regions. In 1985 the name of UNEP's RSP was changed to the Ocean and Coastal Areas Program (OCA) and its headquarters, the Program Activity Centre (PAC), was moved from Geneva to Nairobi.

- ***UNEP coordination office***

- The GPA is presently being implemented under the auspices of the UNEP's (UN Environmnet)' RSP
- A series of regional technical workshops to promote the implementation of the GPA
- The main objectives of these workshops: to finalise regional overviews of land-based activities; agree on the development of regional components of the Clearing-House mechanism; and to develop regional programs of action to address impacts of land-based activities in the marine environment.
- **LMEs- IW- GEF funded projects**

Problems & Future Challenges

- The institutional components to control LBSMP at the global and regional levels are currently very weak.
- There are some successful examples of progress in the regional seas areas where the region consists of developed States e.g. the North East Atlantic.
- Success can also be seen in the regional seas areas where there are both developed and developing States, such as in the Mediterranean and Baltic Sea regions.
- Conditions are still rudimentary where the particular regional seas area consists of developing States, such as that of South Asia and certain areas of Africa.
- Knowledge Gap-Lack of Capacity-insufficient involvement of local govts-lack of incentives for innovative projects-corruption at certain level

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- The current governance framework needs to be strengthened by incorporating and effectively implementing ecologically sustainable management principles and concepts including Ecosystem Based Management (“EBM”) and Integrated Coastal Zone Management (“ICZM”).
- Neither the LOSC nor any other global instrument contains a legally binding obligation to pursue either ICZM or EBM.
- Some non-binding commitments have been agreed to pursue these through various global bodies and soft law instruments.
- In many instances, these commitments are complemented by specific guidance on implementation

Concluding Remarks

- Over the past decades, ocean uses have increased significantly
- Sometimes these increased sea uses are conflicting to each other and harmful to the ocean environment- Due to the increased pressures - increased protection and conservation measures are required
- **How to address?**
- More functional and more sustainable management
- Identification of ecologically valuable areas
- Development of management plans and special management measures such as ocean zoning
- Area based management that offers cross-sectoral management and assessment of impacts of activities and uses
- Improved approaches to cumulative impacts of various pressures and uses on the marine ecosystem
- Improved planning and management system which emphasis a balance between economic development and environmental conservation- Marine Spatial Planning -

- In order to achieve a relative success of the SDG Goal-14 more sustainable and comprehensive management regime is required.
- Adequate integration in resource management to maximise the success of its planning and management measures is required.
- A better understanding about the oceans by awareness building and strengthening research are significant- Major research- Capacity Building
- Strengthening national and regional leadership and cooperation are similarly important- Effective interlinking cooperation
- A concrete and positive cooperation on LBSMP control can only be achieved when political commitment is present and is supported financially.
- Further attention is needed to establish an adequate and strengthened regime that would reinforce the commitment and support to control LBSMP effectively.
- All of these considerations point to the need for a comprehensive framework entailing detailed and appropriate support systems, including dynamic legal, administrative and financial inputs to support and, facilitate private sector participation and to promote compliance.

*Thank you
very much*

