

Reducing the transfer of land-based chemical pollution and plastic debris to the marine environment: sound chemical management and the role of international conventions

Introduction

Bridged by the vast ocean, coastal countries in both the “global North and South” are relying on a healthy ocean for subsistence and growth. Hence, improved knowledge, stronger international collaboration, and sharing of best practices to deal with hazardous chemicals and plastic pollution, are pivotal elements to achieve a globally sustainable development and protect our shared ocean ecosystem.

Many developing countries have taken up the challenge of protecting environment and human health from the risks posed by chemicals and plastic pollution. Among them, those with rapidly emerging industrial economies, such as for example India, have been identified as hotspots of pollution in several scientific reports, with documented examples of on-going adverse impacts on people and environment.

The present workshop aims to address land-based pollution sources and processes that results in transports and releases of chemicals and plastic waste to the Ocean. The workshop aims also at discussing the role of transnational capacity building around international conventions to reduce emission and transport of pollution to the Oceans. By improving the knowledge-base, sharing experiences and discussing sound policy and management options, the workshop aims to contribute setting the framework for a better waste management and reduced releases of hazardous chemicals, marine litter and microplastic pollution.

Hazardous chemicals accumulating in the marine environment

Many countries around the world are committed to protect the environment and human health from the risks posed by chemical pollution. Recognizing the need for preventing persistent organic pollutants (POPs) enter the environment and the need for a global, consolidated approach the United Nation Environmental Programme launched the Stockholm Convention (SC) on POPs. And the Minamata Convention (MC) on mercury (Hg). These policy tools are the backbone for international chemical management.

The complex and dynamic character of international regulatory regime on chemicals, in particular the SC, represent a substantial challenge for transitional economies such as India. The complexity and continuous inclusion of new priority substances represent a major task for chemical management in countries with economic development and significant industrial and agricultural sectors, yet limited capacity on the implementation side. India, taken as an emblematic example of a large country with a boosting economy is a major global player and an emerging industrial hub for the global society. As a reflex, India will increasingly be a potential hotspot for contaminants of global relevance, as production and contemporary consumption habits of the local population will intensify. Similarly, India, as one of the largest users of mercury in the world, is yet to ratify and allocate resources and develop a plan that would enforce the provisions of MC. Even though the country has signed the Convention, “Hg awareness” is still low in some industries and there are no consolidated regulations which are specific to its sound management and disposal of Hg containing waste.

Land based processes, human activities, and remobilization of “old” contaminants stored in soils are key sources to deliver hazardous chemical contaminants to coastal and open ocean environment. Contamination of freshwater resources and riverine transport along with atmospheric depositions are the processes underpinning such a transfer. Protecting the Ocean from chemical pollution requires therefore a “total” action and a holistic regulatory and management frame.

Several factors can hinder the establishment of sound chemical management especially in emerging countries such as India. Lack of capacity in data collection and analysis, emission inventories and hotspot determination, poor stakeholder involvement are some of the critical challenges that have been identified, as well as difficulties in exploiting and managing existing national and international know-how.

Riverine transport of plastic waste

Alongside chemical pollution, plastic waste is considered one of the most serious environmental problems today. Enormous amounts of plastic are entering the ocean worldwide, roughly eight million tons every day. In coastal regions, around one third of all plastic waste generated is mismanaged. The top 20 countries with largest releases of plastic to the ocean accounts for 83 % of mismanaged waste entering the ocean globally. India is one of the countries on the list, however there are large uncertainties regarding data on plastic waste management, generation and release. The Asian region is by far the biggest contributor to plastic pollution to the ocean. Research has indicated that as much as 90% of plastic waste to the worlds’ ocean is coming from just 10 river systems, of which two passes India. Once entered the environment, the plastic will start degrading into microplastic, making it more difficult to track and mitigate. Additionally, plastic can be transported over long distances with rivers and currents.

Concerning plastic waste, countries with transitory economies face the difficult challenge of dealing with increasing volumes of waste from rapidly changing consumption habits and life style in the population, and often a not yet established effective waste management. With its long shoreline, large population and expanding economy, India is surely an emblematic examples as it is both vulnerable and highly exposed to marine plastic pollution. Indian authorities are giving increasing attention to the plastic waste problem. At the third UN Environment Assembly (UNEA-3) in December 2017 India supported the Norwegian proposal urging all actors to “step up actions” by 2025, to prevent and significantly reduce marine pollution of all kinds. The resolution also encourages member states to prioritize policies that avoid marine litter and microplastics entering the marine environment. At a recent big beach clean-up of plastic in Mumbai India's Prime Minister recently praised the efforts, saying: "It is our duty to protect the environment for our future generations”.

India is confronted with multiple challenges for the country to reduce their global impact on plastic waste pollution issues. One example is the recent tax that was introduced on recycled plastic, which made recycled plastic more expensive than virgin plastic, thus removing an important incentive for the informal recycling sector. Another challenge is China's recent ban on import of plastic, which may increase the inflow of plastic to India. These developments come on top of increasing volumes of waste generated by an increasing urban population, and, combined with an inadequate waste collection, treatment and disposal, it poses a serious challenge.

Making progress through international collaboration and regulatory regimes

The fight against transboundary pollution is a central pillar for global conventions. The international legal framework gives certain commitments to build capacity, exchange knowledge and technology and support developing countries in their efforts to tackle environmental degradation.

Being a developed country with tight national restrictions on chemicals and waste, and with close interactions and interlinkages with EU regulation on these issues, Norway is an active promoter of an effective and strict regulatory international framework. Recently Norway proposed the listing of a chemical called perfluorohexane sulfonic acid (PFHxS), its salts and related compounds. Furthermore, it is an active contributor and supporter to EU proposals to list other chemicals, in which commonly has been banned in EU and Norway at an earlier stage. As accentuated in the SC the international community, through institutional and non-governmental stakeholders, is committed to support India in its impelling and difficult tasks on hazardous chemicals.

Norway has recently also taken a leading role in the international battle against marine litter and microplastics. At the third meeting of the UN Environmental Assembly Norway proposed a targeted process with concrete recommendations on how to strengthen the international collaboration against marine litter. Norway also contribute with considerable funds to UN work on the issue. Domestically, Norway has developed advanced strategies and regulations to control and reduce plastic and microplastic pollution, applying effective measures such as sound waste management, extended producer responsibility, beach cleaning, taxation and more. Together with other international experiences, these measures may be highly relevant examples for other countries.

The proactive international role by Norway and other developed countries, will have reduced value if developing countries and economies in transition lack the capacity and resources to deal with the environmental problems associated with hazardous chemicals and plastic pollution entering the marine environment. Thus, there are strong reasons to build a stronger collaboration between countries that are pushing the borders of the regulatory regime and those countries that faces the most significant challenges with implementation. Better international collaboration may contribute to a better understanding of such challenges and the countries special national circumstances, thus increasing the chances of identifying sound, effective and relevant policy and management options in the future.