Sixty-eighth session

Item 19 of the provisional agenda*

Sustainable Development

Cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea

Report of the Secretary-General

Summary

In compliance with the General Assembly resolution 65/149, this report conveys views of Member States and relevant regional and international organizations on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea, as well as on possible modalities for international cooperation to assess and increase awareness of this issue. The information was drawn from responses of Member States and relevant regional and international organizations to the Questionnaire circulated by the Secretariat on this topic.

* A/68/100
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I. Introduction

1. The General Assembly at its sixty-fifth session adopted resolution 65/149 “Cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea”¹. In this resolution, the General Assembly “notes the importance of raising awareness of the environmental effects related to waste originating from chemical munitions dumped at sea”, and “invites the Secretary-General to seek the views of Member States and relevant regional and international organizations on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea, as well as on possible modalities for international cooperation to assess and increase awareness of this issue, and to communicate such views to the General Assembly at its sixty-eighth session for further consideration.”

2. The current report was prepared in line with the above General Assembly resolution. It offers a summary of reviews of Member States and relevant regional and international organizations on issues relating to the environmental effects related to waste

¹ A/RES/65/149
originating from chemical munitions dumped at sea, and on possible modalities for international cooperation. All the information was drawn from responses of Member States and relevant regional and international organizations to the Questionnaire circulated by the Secretariat on this topic.

II. Follow-up to GA resolution 65/149

3. After the adoption of the General Assembly resolution 65/149, in order to advance the implementation of the resolution, Lithuania and Poland co-organized the International Workshop on Environmental Effects Related to Waste Originating from Chemical Munitions Dumped at Sea on 5 November 2012 in Gdynia, Poland. Governmental representatives, experts, academic and research institutions, non-governmental organizations and the private sector attended the Workshop.

4. In the Workshop, participants discussed environmental, safety and security challenges and effects posed by waste originating from sea-dumped chemical munitions in various parts of the world, as well as national and international responses to them. The work by the Helsinki Commission (HELCOM) was emphasized as an
example of excellent regional cooperation that could be used in setting guidelines for other regions. ²

5. It has been reaffirmed by all participants that the General Assembly resolution 65/149, inviting more coordination and further cooperation in sharing information on a voluntary basis and raising awareness on this subject, is very important for the whole process of environment protection. It was also emphasized that the resolution should serve as a tool to facilitate information gathering in an inclusive manner with regard to sea-dumped chemical munitions, their impact on the environment and eventual effects on human health. ³

6. After the Workshop, on 28 November 2012, the Permanent Representative of Lithuania to the United Nations sent a letter to the Secretary-General in which she transmitted the Summary of the Workshop and requested to circulate the letter and its annex as a document of the sixty-seventh session of the General Assembly under agenda item 20 “Sustainable development”. ⁴

² A/C.2/67/3
³ Ibid
⁴ A/C.2/67/3
III. Responses of Member States and relevant regional and international organizations to the Questionnaire

7. In compliance with the General Assembly resolution 65/149, a questionnaire to collect views on issues relating to the environmental effects related to waste originating from chemical munitions dumped at sea was circulated to all Member States and relevant regional and the international organizations on 22 March 2013.

8. The Secretariat received responses to the Questionnaire from the European Union as well as 23 Member States (Bahrain, Chile, Costa Rica, Croatia, Cyprus, Estonia, France, Gabon, Georgia, Grenada, Guyana, Japan, Latvia, Lithuania, Malaysia, Mexico, New Zealand, Philippines, Poland, Qatar, Romania, Spain, and Turkey), one office of the UN system (United Nations Office for Disarmament Affairs), two international organizations (International Maritime Organization, and World Health Organization), and one non-governmental organization (International Dialogues on Underwater Munitions).

9. A summary of views reflected in these responses is described in subsequent chapters.
A. Situation\textsuperscript{5}

1. Countries and regions with an environmental risk of waste originating from chemical munitions dumped at sea

10. Croatia, Latvia, Lithuania, Poland, Bahrain, Qatar, Philippines, Mexico, Grenada, Guyana, and the European Union explicitly stated that there is an environmental risk in their countries or region related to waste originating from chemical munitions dumped at sea (WOCMDS).

\textsuperscript{5} The views expressed are based on responses to the Questionnaire and do not imply the expression of any opinion on the part of the \textbf{Secretariat}. 
11. The European Union indicated that some information is available on risks posed by WOCMDS in various Seas bordered by EU countries, and that the issue has been identified as a problem so far especially in the Baltic Sea and in the North-East Atlantic. More information on environmental challenges is available, for
example through the Baltic Marine Environment Protection Commission (Helsinki Commission-HELCOM), based on the legally binding Convention on the Protection of the Marine Environment of the Baltic Sea Area (the Helsinki Convention). HELCOM has established an ad hoc expert group on dumped chemical munitions in 2010 that has elaborated a report on "Update and Review the Existing Information on Dumped Chemical Munitions in the Baltic Sea".\(^6\)

12. In addition, the European Union indicated that the OSPAR Commission (OSPAR), based on the legally binding Convention for the protection of the marine environment of the North-East Atlantic, has been studying the issue of dumped chemical and conventional munitions since 2000. OSPAR published an “Overview of Past Dumping at Sea of Chemical Weapons and Munitions in the OSPAR Maritime Area” in 2002 that was subsequently updated in 2005 and 2010.\(^7\) Details of the locations, types and quantities of materials dumped have been recorded in a database that is on the OSPAR website. In 2003, OSPAR agreed on Recommendation 2003/2 on an “OSPAR Framework for Reporting Encounters with Marine Dumped Conventional and Chemical Munitions”.


\(^7\) [http://www.ospar.org/v_publications/download.asp?v1=p00519](http://www.ospar.org/v_publications/download.asp?v1=p00519)
Munitions in the OSPAR Convention area” that was subsequently replaced by updated Recommendation 2010/20.\textsuperscript{8} The recommendation requested the reporting of encounters with marine dumped chemical weapons and munitions that are recorded in the database.\textsuperscript{9} In 2004, OSPAR published an updated review of “Convention-wide Practices and Procedures in relation to marine dumped chemical weapons and munitions”, including “Guidelines for Fishermen and Other Users of the Sea and its Coastline”.\textsuperscript{10} In 2008, OSPAR published a report on "The Assessment of the Impact of Dumped Conventional and Chemical Munitions".\textsuperscript{11} In 2009, OSPAR published the report "Implementation of OSPAR Recommendation 2003/2 Database on Encounters with Dumped Conventional and Chemical Munitions".\textsuperscript{12}

13. Latvia stated that there exists an environmental risk for Latvia by chemical munitions dumped in the Baltic Sea. Information on environmental challenges can be obtained through HELCOM. \textsuperscript{13}

\textsuperscript{8} http://www.ospar.org/v_measures/get_page.asp?v0=10-20e_munitions.pdf&v1=4
\textsuperscript{10} http://www.ospar.org/v_publications/download.asp?v1=p00365
\textsuperscript{11} http://www.ospar.org/v_publications/download.asp?v1=p00439
\textsuperscript{12} http://www.helcom.fi
14. Lithuania stated that part of the chemical munitions dumpsite in the Gotland Basin lies within the Exclusive Economic Zone (EEZ) of Lithuania. The closeness of the area poses a potential risk for Lithuania to be affected by WOCMDS. Chemical warfare agents like sulphur mustard, tabun and arsenic-containing substances were designed to trigger severe biological effects at very small doses. All of them are extremely toxic to humans and other forms of life. In many cases also the degradation products show some degree of toxicity, while some compounds have the potential to be bio-accumulated by organisms within the food chain.

15. Poland indicated that after the Second World War more than 40,000 tons of munitions were dumped in the Baltic Sea, mostly in the area east of Bornholm, southeast of Gotland, in the proximity of the Polish EEZ. It is likely that chemical munitions were also dumped in the Gdansk Deep, off the Polish coast. There are also indications that part of the warfare was thrown overboard during transport to various dump sites, though the amount is not known. Chemical munitions included mustard, lewisite, sarin, and tabun. When these toxic agents are exposed to seawater, they can react to form additional harmful substances: lewisite, for example, could
degrade to release arsenic near disposal sites.

16. Croatia stated that according to the initiative of the Contracting Parties (CP) of Barcelona Convention at their 13 COP (Portorož, November 2005), UNEP/MAP MED POL in cooperation with CP collected available country data on the dumping sites of ammunitions in the Mediterranean Sea. Based on the data, the “Report on the Ammunitions Dumping Sites into the Mediterranean Sea” was prepared in 2009.\textsuperscript{14} Croatia participated in the initiative by providing available data and locations of dumped ammunitions. Croatia considers the mentioned Report as a relevant document that reflects the state of environmental risk posed by the WOCMDS in the Mediterranean Sea including Adriatic Sea.

17. Japan indicated that chemical munitions have been found at a seaport in Japan, and were dumped by the then Japanese military around the end of the Second World War.

18. New Zealand answered that there are two known ocean dumping sites for chemical weapons in New Zealand. Chemical weapons were dumped at these sites in 1946, following the end of

\textsuperscript{14} UNEP(DEPI)/MED WG. 338/2
the Second World War, and were from New Zealand’s own stockpile of chemical mustard gas artillery shells and mortar bombs. However, the health hazards associated with these dumped chemical weapons is considered low. This position is in line with the findings of 2003 report of the Australian Department of Defence on “Chemical Warfare Agent Sea Dumping off Australia”, which is publicly available.

2. Environmental challenges and effects posed by WOCMDS

19. Some countries noted that the environment and health risks from WOCMDS may be caused by their potential transport or discharge to surface or groundwater, release to air, and leaching to soil and bioaccumulation in the food chain.

20. Some countries in the Baltic Sea Area emphasized that WOCMDS creates a potential risk for the bottom fauna and flora in this area. According to them, although majority of the dumpsites are situated in the deep water, with relatively low oxygen concentration and abundance of marine biota, they can become a source of contamination for both biota located in the dumpsites in the upper and lower column during a mixing event, or for benthic biota in
more shallow areas, due to the action of bottom currents. Possible challenges include adverse effects on fish stocks wellbeing, and transfer of contaminants via food chain from benthic animals to fish preying on them. WOCMDS presents a potential threat for fishing vessels and offshore wind farms. The countries estimated that the suspected dumpsite could interfere with future oil exploration, as submarine oil deposits are situated in the vicinity.

21. Some countries in the Arabian Gulf area indicated that WOCMDS can be a big threat to the fragile environmental resources in this area, and its marine flora and fauna can be greatly affected in case of any controlled or un-controlled dumping and disposal. Fishery is one of the important employment sources in this area. The Arabian Gulf is also a main source for drinking water where the sea water undergoes the process of desalination. Any disposal of WOCMDS would pose a great threat to already vulnerable environmental situation.

22. Some small island developing States stressed that they depend heavily on marine and coastal resources for development. Materials dumped offshore or near to shore are carried around the world by oceanic currents. As a result WOCMDS can create health
and environmental problems, pose a challenge to the life of the marine diversity dwelling therein, and negatively impact on the livelihood of artisanal fishers and large-scale commercial fishing groups. As it relates to artisanal fishers, with the tidal seasons comes the mixing of marine waters with fresh waters thus there is a risk to the quality of fresh water if the marine waters are contaminated.

23. The International Dialogues on Underwater Munitions (IDUM) estimated that if a dumpsite is disturbed enough to cause some sort of release, this could decrease the fish stock by approximately 70 per cent.

3. Scientific research and findings on environmental effects related to WOCMDS

24. The European Union reported that in 2005 the European Commission financed research on the issue through the Sixth Framework Programme project: Modelling of Ecological Risks Related to Sea-dumped Chemical Weapons (MERCW).15

15 http://mercw.org/
25. The Baltic Sea research project “CHEMSEA – Chemical Munitions, Search and Assessment” is partly financed by the European Regional Development Fund. The Institute of Oceanology - Polish Academy of Science is the coordinator of CHEMSEA. Finland, Sweden, Germany and Lithuania have also joined this project. The research includes survey of dumpsites, characterization of pollution and environmental parameters within them. It also focuses on the effects of WOCMDS on marine biota. Results so far show large dispersion of chemical weapon objects on the Gotland Deep Dumpsite area. Fish from dumpsites are characterized with higher frequency of diseases than those from control areas. Genotoxic effects and damages of cellular membranes were observed in both fish and caged mussels exposed at the dumpsites. Pollution of sediments in the vicinity of objects is under investigation. The magnitude and direction of bottom currents in the dumpsite areas suggest that spreading of contaminated material to other areas of the Baltic Sea is entirely possible in the day-to-day current pattern, and very likely during extreme events, such as the inflow of saline water from the North Sea.

http://www.chemsea.eu/
26. A part of the chemical munitions dumpsite in the Gotland Basin within the western part of the Lithuanian EEZ was investigated in the frame of national Lithuanian projects. The aim was to determine if chemical munitions were dumped in the waters of the Lithuanian EEZ and to perform an environmental impact assessment by evaluating the conditions of the environment and biota in the area under investigation. The conclusion of the research was that water depth, north direction bottom water currents, bottom currents velocities and bottom relief prevent chemical munitions from reaching the Lithuanian coast. Further studies would still be necessary to make unequivocal conclusions about the risk of leakage of chemical munitions at this dumpsite.¹⁷

27. Croatia indicated that in the Mediterranean Sea region, activities conducted in the framework of UNEP/MAP have been concentrated mostly on mapping the officially recorded ammunitions dumping sites. In Croatia, the Ministry of Defence is the responsible ministry holding the data on dumped ammunition sites in the area under sovereignty and jurisdiction of Croatia. The

Italian research institute ICRA M was engaged in the European Commission co-funded project “RED COD”, aiming to assess effects and risks toward the benthic ecosystems caused by leaking of persistent pollutants from dumped ammunitions in the Southern Adriatic Sea.

28. The French scientific community does not directly lead research on this issue but monitor it from a scientific and technical perspective. National institutes specialized on chemical issues, industrial chemistry, and terrestrial and marine pollution agencies are aware of this issue.

29. In Mexico, several institutions and universities have research programs on Mexican seas. More work should be done to relate these programs to WOCMDS.

30. In Qatar, there are some research and studies conducted by the Ministry of Environment and the Environmental Research Center of Qatar University on this subject.

31. The International Maritime Organization (IMO) indicated that the Convention on the Prevention of Marine Pollution by Dumping of
Wastes and Other Matter 1972 (the London Convention 1972 (LC)), entered into force in 1975, prohibits the dumping of “materials in whatever form (e.g., solids, liquids, semi-liquids, gases or in a living state) produced for biological and chemical warfare”. This regime is also fully incorporated in the London Protocol 1996 (LP), which entered into force in 2006 and will eventually replace the London Convention. However, the Convention (and Protocol) does not cover materials dumped before the entry into force of the Convention. The Parties to the LC (and subsequently the Parties to the LP) are however aware that, in the 1980-1990s, Parties to the Helsinki Convention considered the issue of chemical warfare munitions that were dumped in the Baltic Sea in the wake of World Wars I and II in some detail and agreed to leave these munitions where they were dumped.

32. The Parties to the London Convention/Protocol subsequently endorsed this policy and in the past discussed the location of historical sites of obsolete munitions and have attempted to bring such information to the attention of fishers and mariners in all State Parties to the LC/LP via publishing location information and providing advice regarding the handling of such munitions if found

18 Article IV(1)(a), juncto Annex I, paragraph 7
in nets. Some maps identifying known dump sites have also been made available in the Mediterranean Sea, Australia, New Zealand, United Kingdom, United States and others. The International Hydrographic Office includes these in its charts.

33. In this context, the IMO noted that the governing bodies of the LC/LP receive advice on the scientific/technical aspects of any issues related to the LC/LP from its Scientific Groups, who meet annually, approximately 6 months before the meeting of the governing bodies.

B. Response to incidents

34. Poland reported that since 1950s, several incidents related to WOCMDS have occurred in the Polish EEZ. Some of them were associated with beaching of chemical weapon (CW) on the Polish Coast, and other with accidental catches of CW by Fishermen. Decontamination of fishing vessels in contact with WOCMDS has been performed on several occasions, and decontamination of contaminated beaches was performed after CW beaching. Treatment of injured fishing personnel and tourist was performed by the responsible units.
35. Croatia indicated that its most common experience regarding dumped ammunitions is related to the deactivation and disposal of old underwater mines.

36. Other countries indicated that to date they had no real experience in responding to incidents related to WOCMDS.

37. On the question of country/region’s capacity to respond to incidents related to WOCMDS, Croatia, France, Poland, Spain, Turkey, Japan, Philippines, and Mexico stated that they have the capacity to respond to such incidents, while other countries answered that they do not.

38. The European Union indicated that any country affected by an incident related to WOCMDS can address a request for assistance to the Emergency Response Centre (ERC) in the European Commission. ERC is a 24/7 operational hub of the EU Civil Protection Mechanism which facilitates co-operation in civil protection assistance interventions by pooling resources and expertise of the 32 participating states.\(^{19}\)

\(^{19}\) http://ec.europa.eu/echo/policies/disaster_response/mechanism_en.htm
39. France, Lithuania, Poland, Spain, Turkey, Qatar, Japan, and Mexico stated that they have developed national action plans or built capacities to respond to incidents related to WOCMDS.

40. For example, France has contingency plans in place to respond to chemical incidents whether they are from accidental or terrorist origin. These plans describe the organization of the various actors at local and national level. Lithuania and Poland are actively participating in the CHEMSEA project, which aims to prepare an action plan of response to the incidents related to WOCMDS. In Turkey, in order to ensure preparedness of coastal facilities, risk assessment and emergency response plans have been prepared. In Qatar, people within the armed forces got training in dealing with chemical weapons. Japan has been investigating the chemical munitions, removing them and making them harmless as they are discovered, with the cooperation from a private company which owns expertise. Philippines increased its coordination with other countries that have built-in capacities and capabilities. Mexico has developed plans to cope with maritime incidents that jeopardize the environment. With more knowledge of the risk associated to WOCMDS, those plans would be revised.
41. The European Union indicated that the CHEMSEA project will update the existing guidelines and develop them further in order to reduce potential threats to the environment and fishermen. OSPAR prepared the 2009 report as a framework for the development of national guidelines on what to do to reduce risk to fishermen and coastal users when munitions are encountered.20

42. Croatia, Cyprus, Latvia, Romania, Bahrain, Malaysia and Guyana stated that currently they don’t have any national action plan or built capacity to respond to incidents related to WOCMDS. However, they have interest to do so or to join the international collaboration to exchange views regarding this in the future.

43. Estonia, Georgia, Gabon, New Zealand, Chile, Costa Rica, and Grenada indicated that they don’t have action plan with regard to response to incidents related to WOCMDS, also they don’t intend to do so in the near future, either because there is no demand for state policy based on historical information on absence of dumped chemical munitions in their marine waters, or they never had any

experience with WOCMDS and consider the action plan unnecessary.

44. IMO indicated that under the London Convention and Protocol, dumping of waste in general requires a permit, to be issued by the Member State/Contracting Party.

45. In 1993, the Contracting Parties to the London Convention agreed to prohibit the disposal at sea of “industrial waste” as from 1 January 1996 by adopting Resolution LC.49 (16). This resolution contained the necessary amendments to Annexes I and II of the London Convention and these amendments entered into force on 20 February 1994. Ammunitions are materials “generated by manufacturing and processing operations” and, once these become obsolete, they are regarded as “industrial waste” under the amendments mentioned above. With adoption of Resolution LC.51(16), Contracting Parties in 1993 also agreed to extend the prohibition of sea disposal of high-level radioactive wastes or other radioactive matter in place since 1975, to henceforth cover sea disposal of all radioactive wastes or radioactive matter. Disposal at sea of ammunition containing depleted uranium is thus covered by a “double” prohibition. The consequence of these decisions is that
authorities dealing with obsolete ammunition should in general find an acceptable option on land (i.e. safe disposal or destruction on land). In exceptional cases, Contracting Parties can invoke Article V(2) of the London Convention 1972, or Article 8.2 of the London Protocol - the so-called “emergency procedure”.

46. Some Contracting Parties in their annual notifications of permits issued under the Convention and Protocol occasionally report to the Secretariat that permits have been issued for sea disposal of “useless explosives” or “obsolete ammunition”. In other words, there is no uniform agreement among Parties that these materials should not be dumped at sea.

47. The World Health Organization (WHO) has built capacities to support countries, if requested, to respond to all types of chemical incidents and emergencies that overwhelm national public health capacities and capabilities.21 The International Health Regulations (IHR) are an international legal instrument that is binding to all Member States of WHO with the aim to help the international community prevent and respond to acute public health risks that

have the potential to cross borders and threaten people worldwide, including chemical events.\textsuperscript{22}

\section*{C. Raising awareness and other actions}

48. Croatia, Estonia, France, Latvia, Lithuania, Poland, Qatar, Philippines, and New Zealand stated that their Governments provided information on WOCMDS to civil society and industry or conducted activities to raise awareness on WOCMDS.

49. Available information on existing disposal sites charted on the maps of Former Republic of Yugoslavia is published by the Croatian Hydrography Institute on the nautical maps.

50. In Estonia, information on dumped chemical munitions in the Baltic Sea area is released when requested by the general public, industry and etc.

51. In France, the specialized research institutes maintain their level of information by following the conferences on these issues and monitoring the scientific and technical literature.

\textsuperscript{22} The text of the IHR is available at: http://www.who.int/ihr/9789241596664/en/index.html. Further information about the IHR is available at http://www.who.int/ihr/en/.
52. According to the HELCOM Guidelines, a National Leaflet on “Fisheries and Warfare Agents: Preventive measures and first aid” was elaborated and published by the HELCOM. The State Environmental Service of Latvia has distributed this leaflet to the crews of fisheries.

53. Over the past few years, Lithuania has hosted a few international conferences and workshops on WOCMDS, presented the issue in various international organizations, and informed the public via the media. The events organized in this framework include: HELCOM Monitoring and Assessment Group 15th Meeting (Vilnius, Lithuania, 4-7 October 2011); International seminar on environmental effects related to waste originating from sea-dumped chemical munitions (Vilnius, Lithuania, 20 September 2011); IEEE (Institute of Electrical and Electronics Engineers)/OES (Oceanic Engineering Society) Baltic 2012 International Symposium (Klaipėda, Lithuania, 8-11 May 2012). Moreover, a website was created to facilitate discussion among different actors on the issue of sea-dumped chemical weapons.\(^{23}\)

\(^{23}\) http://www.seadumpedcw.org/
Lithuania also mentioned interviews to the newspapers and radio.

54. The Polish Government and other institutions provide information and raise awareness on WOCMDS by direct actions and support to international projects and activities. In 2012 and 2013, a series of conferences “Poland for Baltic Sea”, aimed at the sea users and local maritime administration, were organized by the Chief Inspectorate of Environmental Protection of Poland. Polish Officials raise the issue of WOCMDS during interviews, official meetings and public debates. Information on WOCMDS is available on the Chief Inspectorate of Environmental Protection webpage. Polish representatives have participated in a number of international and national conferences regarding WOCMDS related problems, presenting results of their research. Several publications were issued in international and national journals. A series of training for fishermen were performed by Polish Naval Academy, in the framework of CHEMSEA project, with the support of scientists from the Institute of Oceanology - Polish Academy of Science. A number of TV broadcasts in national television was performed, originating both from government level and

CHEMSEA project. A documentary related to WOCMDS is being currently assembled by GEORAMA TV for the Arte television channel.

55. The Government of Qatar provides information to the military personnel in the training courses of the armed forces with the purpose to raise awareness among all military personnel about the environmental pollution and environmental issues, including those related to chemical weapons and waste.

56. The Government of Philippines has strict rules particularly on the handling and storage of WOCMDS. Industries which will renew business licenses are required to go through a thorough inspection to their storage facilities, and they should mandatorily follow the rules and other international and local codes. Awareness programs are clustered based on the interest of the public and government.

57. In New Zealand, the information on the two chemical weapon dumping sites is available to the public should they wish to see it.
58. IMO indicated that the London Convention/Protocol has an extensive outreach and capacity building programme, which includes all aspects of implementation of the Convention/Protocol at the national level and in national legislation, as well as compliance monitoring and enforcement. The Parties to the London Convention/Protocol have developed and published information for fishers and mariners regarding known dump sites and providing advice regarding the handling of such munitions if found in nets.

59. Through the International Programme on Chemical Safety (IPCS), WHO works to establish the scientific basis for the sound management of chemicals, and to strengthen national capabilities and capacities for chemical safety. Chemical safety is achieved by undertaking all activities involving chemicals in such a way as to ensure the safety of human health and the environment. It covers all chemicals, natural and manufactured, and the full range of exposure situations from the natural presence of chemicals in the environment to their extraction or synthesis, industrial production, transport, use and disposal (including, for example, some warfare

agents). However, WHO does not currently have activities dedicated to WOCMDS specifically.

60. Partnerships between government, industry and civil society on raising awareness, as well as reporting and monitoring of WOCMDS have been developed in Latvia, Poland, Philippines and Bahrain. For example, fishermen in Latvia have been invited to report to the State Environmental Service on the caught dumped chemical munitions. There is a standing cooperation in Poland between the scientific community (the Institute of Oceanology - Polish Academy of Science, Military University of Technology, and Polish Naval Academy) and the government (Ministry of Foreign Affairs, Ministry of Defense, and Chief Inspectorate of Environment Protection) with regard to WOCMDS studies, development of international reports and dissemination of knowledge. The Philippines reported that the relevant governmental agencies keep coordinating with the industry and civil society to monitor any occurrence of WOCMDS. The Government of Bahrain is in active partnership with the industry and civil society on a number of local infrastructure, development and environmental issues.
61. In addition, IMO indicated that the London Convention/Protocol has a network of partnerships with Contracting Parties, NGOs and industry.

D. Cooperation

1. Existing regional and international cooperation on WOCMDS\textsuperscript{26}

62. The European Union cooperates with other states in the framework of different regional sea conventions, such as the Helsinki Convention and the Convention for the Protection of the Marine Environment of the North-East Atlantic (the “OSPAR Convention”).

63. The Helsinki Commission (HELCOM) works to protect the marine environment of the Baltic Sea from all sources of pollution through intergovernmental co-operation between Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russian Federation, Sweden and the European Community. HELCOM is the governing body of the “Convention on the Protection of the

\textsuperscript{26} Based on responses to the Questionnaire.
Marine Environment of the Baltic Sea Area” – more usually known as the Helsinki Convention. Currently HELCOM ad hoc expert group on dumped chemical munitions (HELCOM MUNI) is preparing a report, which will provide updated and reviewed information on dumped chemical munitions in the Baltic Sea. The report will present available knowledge about dumping and recovery activities in the Baltic Sea in particular reflecting recently found archive material and research findings, and will draw conclusions on that basis.

64. Lithuania reported that the International Scientific Advisory Board on Dumped Chemical Weapons (ISAB) was established under Lithuania’s initiative and started its activities in 2010. The ISAB gathers world-known representatives of environmental organizations, scientists and researchers from Australia, Belgium, Canada, France, Japan, Lithuania, Poland, Russian Federation, Sweden, and the United States, working in the fields of environment protection and destruction of chemical weapons. The ISAB provides qualified scientific and technological information, evaluations and analytical recommendations regarding sea-dumped chemical weapons.
65. Lithuania and Poland reported that CHEMSEA (chemical munitions search and assessment) is a flagship project of the Baltic Sea Region Strategy. It was initiated in autumn 2011 and will last through early 2014. Poland is the coordinator of the project, uniting 11 Institutions from Finland, Germany, Lithuania, Poland and Sweden. This is the research project with an administrative component, and receives support from maritime administration, ministries of environment and military of the partner states.

66. The issue of sea dumped chemical weapons was also raised in the forum of the Organization for Prohibition of Chemical Weapons (OPCW). During the Seventeenth Session of the Conference of the State-Parties to the CWC (28 November 2012, The Hague), Poland and Lithuania organized the side event “Sea-dumped chemical weapons – recent developments”.

67. A side event devoted to sea-dumped chemical weapons was organised by Poland together with Lithuania, the International Dialogue on Underwater Munitions (IDUM) and the ISAB at the margin of the Third Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons Convention (CWC) (8-19 April 2013, The Hague). The aim of the
side event was to promote exchange of experience and information related to problems caused by sea-dumped chemical weapons, as well as to encourage states to develop the OPCW as a venue for voluntary cooperation among governments, relevant industries, academia and NGO community, on this important subject.

68. Also at the Third CWC Review Conference, Poland, Lithuania, Bulgaria and Luxembourg presented a joint working paper on broadening international cooperation on sea-dumped chemical weapons and promoting the OPCW as a forum for voluntary cooperation on that issue. Following the proposal, the issue of the sea-dumped chemical weapons was reflected in the final Report of the Third CWC Review Conference: “The Third Review Conference noted the United Nations General Assembly resolution ‘Cooperative measures to assess and increase awareness of environmental effects related to waste originating from chemical munitions dumped at sea’, adopted at its 65th session by consensus, and invited States Parties to support voluntary sharing of information, raising awareness and cooperation on this issue”.27

27. RC-3/3, dated 19 April 2013, paragraph 9.147
69. Croatia reported that the Contracting Parties of the Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention) also cooperate in initiatives undertaken related to the issue of WOCMDS.

70. Bahrain and Qatar reported that there is cooperation and coordination among all gulf countries through the Gulf Cooperation Council (GCC) concerning all issues on environment and pollution, including the issue of chemical waste.

71. IMO reported that the London Convention/Protocol also cooperates actively with governments, academia, NGOs and industry on issues within the mandate of the Convention/Protocol as well as broader issues with other international instruments. For munitions containing radiological material, IMO works with the International Atomic Energy Agency to identify “accidental” losses and historical disposal sites.

72. The International Dialogue on Underwater Munitions (IDUM) stated that IDUM serves as a non-governmental global forum for underwater munitions information exchange on the topics of policy, science, technology and economics of investing in marine resources. It is a body where all stakeholders, including diplomats,
government departments, industry, fishermen, divers, oil and gas, and military, can come together to discuss underwater munitions, seek solutions, and promote international teamwork on the issues related to underwater munitions. The third IDUM meeting, held in Sopot, Poland in 2011, focused on sea-dumped chemical munitions.

2. **Possible modalities for international cooperation to assess and increase awareness of WOCMDS**

![Possible modalities for international cooperation to assess and increase awareness of WOCMDS](image)

73. Some respondents supported the need to strengthen cooperation on WOCMDS within existing frameworks, including regional seas conventions, and to continue international and regional projects and activities which relate to risk assessment, monitoring, and environmental damage management related to WOCMDS.
74. Some respondents suggested to consider creating a database on sea-dumped-chemical-munitions with voluntary shared information on, e.g., dumping sites, recorded environmental impact, best practices of reaction after accidental encounter, and available technologies for destruction, etc., paying specific attention to using and building upon, rather than duplicating, existing and ongoing work on the issue in the relevant regional seas conventions. The OPCW could be a venue for voluntary sharing of information, raising awareness and cooperation on sea dumped chemical weapons among the States Parties, academia, industry and NGOs. Some other respondents suggested that cooperation could be done through continuous survey by the United Nations.

75. Some respondents stated that there is a need to promote dialogues and broader engagement on possible impact of sea-dumped chemical weapons within international and regional forums, conferences and meetings, or to organize side events on the margins of annual meetings/plenary in relation to environmental threats. Some indicated that since the issue of WOCMDS is directly regulated under the London Convention/Protocol, it could be brought to the attention of the
next meeting of the governing bodies of the Convention/Protocol, to be held on 14-18 October 2013.

76. Some stressed that it is necessary to strengthen capacity building through national and regional workshops, or by creating a series of capacity building frameworks either online in all UN official languages or face to face. Some stated that there is a need to further integrate WOCMDS research, administration and industry - both in terms of enhanced cooperation and knowledge exchange, and support to capacity building programs. Some expected that assistance will be provided in enhancing the knowledge on the subject as well as imparting training to the key staff. Some specifically suggested that cooperation could be done through: conducting training courses for those people and organizations dealing or responsible for such issues; exchange of experience with international organizations and developed countries; and study tours to international organizations and institutions, which tackle the problem of chemical waste.

77. Some emphasized that there is a need to enhance involvement of all stakeholders, including States, relevant international organizations, such as OPCW, UNDP, UNEP, and the UN Office for Disarmament Affairs, as well as public and private partners to
assess and increase awareness of WOCMDS. It was considered that
the international organizations should assist in addressing the risks
identified by research activities and exchanging information with
respect to sea-dumped chemical weapons, including risk of
exposure to dumped chemical agents, e.g. fishing crews, washed
ashore contents on beaches, risk of increased contamination of sea
organisms, such as teratogenic, carcinogenic as well as mutagenic
potential of the multitude of agents. Some stated that the United
Nations should coordinate to develop standards and policies with
regard to WOCMDS. Some suggested that this topic should be
explicitly mentioned in the clean water strategy on both
international and country level.

78. Some respondents stated that cooperation between countries or
with international organizations to examine the suspected areas and
gather information on possible chemical munitions discharges at sea
in time could assist in preventing environmental effects related to
WOCMDS.

79. Some mentioned technical and/or financial support to developing countries
which are affected by WOCMDS, and proposed creating an international donor
trust fund in this regard.