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Intergovernmental negotiating committee to develop an international legally binding instrument on plastic pollution, including in the marine environment
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Preparation of an international legally binding instrument on plastic pollution, including in the marine environment

Information submitted by the United Nations Office for Disaster Risk Reduction

Note by the secretariat

1. The United Nations Office for Disaster Risk Reduction has submitted information concerning:

   (a) Disaster risk reduction terminology to support standardization across intergovernmental processes;

   (b) The impact of plastic pollution in increasing disaster risk;

   (c) Guidance on the resilience of waste management systems to reduce plastic waste leakage from disasters; and

   (d) Current efforts to minimize plastic pollution connected to disaster response;

   which could be of relevance to the intergovernmental negotiating committee.

2. The information can be found in the annex to the present note. The information is presented as received and has not been formally edited.

Annex

Information that could be of relevance to the intergovernmental negotiating committee submitted by the United Nations Office for Disaster Risk Reduction

I. Introduction

1. The present document provides information on:

a. Disaster risk reduction terminology to support standardization across intergovernmental processes;

b. The impact of plastic pollution in increasing disaster risk;

c. Guidance on the resilience of waste management systems to reduce plastic waste leakage from disasters.

d. Current efforts to minimize plastic pollution connected to disaster response; and

II. Disaster risk reduction terminology to support standardization across intergovernmental processes

2. UNDRR advises using the term “disasters” instead of “natural disasters” in internationally agreed language. While hazards like hurricanes, earthquakes or floods may be natural, disasters are not. A disaster occurs only when a natural hazard affects an area in which people or assets are exposed to it; and also depends on the vulnerability of the affected community in terms of lack of adequate protection, often due to poverty, exclusion or social disadvantage. Additionally, disasters can result from human-made hazards, such as chemical spills or nuclear accidents, which also have devastating impacts on communities and the environment. Key international frameworks, including the Sendai Framework for Disaster Risk Reduction 2015-2030 (A/RES/69/283) and its predecessor, the Hyogo Framework for Action 2005-2015, refer only to “disasters” and “natural and man-made hazards”.

3. The terms “disaster”, “hazard”, “disaster risk”, “disaster response” and “resilience”, which the intergovernmental negotiating committee might consider using in the international legally binding instrument on plastic pollution, including in the marine environment, were formally defined by the Open-Ended Intergovernmental Expert Working Group on Indicators and Terminology Relating to Disaster Risk Reduction. The group was established to develop a set of possible indicators to measure global progress in implementing the Sendai Framework for Disaster Risk Reduction 2015-2030 and consider terminology updates. Its report (A/71/644), which includes the definitions listed below, was adopted by the General Assembly in February 2017 (A/RES/71/276).

a. *Disaster*: A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts. Emergency is sometimes used interchangeably with the term disaster, as, for example, in the context of biological and technological hazards or health emergencies, which, however, can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.

b. *Hazard*: A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation.

c. *Disaster risk*: The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity.

d. *Disaster response:* Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

e. *Resilience*: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

III. The impact of plastic pollution in increasing disaster risks

4. Plastic pollution is increasingly contributing to disaster risks, with both plastic waste and microplastics identified as hazards of relevance to disaster risk reduction and resilience building (UNDRR, 2021a). This underscores the need to incorporate considerations around plastic pollution into strategies and actions focused on mitigating and managing disaster risks.

5. In particular, the accumulation of plastic waste in drainage systems and waterways worsens the effects of flooding, an issue observed across various regions. Notably, as early as 1988, plastic bags blocking waterways were reported to contribute to severe flooding in Bangladesh, where two-thirds of the country were submerged (UNEP, 2018). More recent incidents, such as floods in Jamaica, Manila and Mumbai have similarly been linked to plastic pollution (UNDRR, 2024a; Soutjesdijk, 2018; Shetty, 2020). Studies suggest that over 218 million people who are already in situations of vulnerability may be at risk of plastic-aggravated flooding (Tearfund, 2023), a conservative figure expect to rise if current pollution trends persist. Concurrently, flooding events exacerbate plastic pollution due to increased waste leakage, including into the marine environment (Dengler, 2018; Dzodzebgbe and Andoh, 2024), highlighting a concerning cyclical relationship.

6. In addition to the direct contribution to flooding events, plastic pollution also harms biodiversity and ecosystems, including by damaging coral reefs (Lamb et al, 2018), suffocating mangrove plants and impacting seagrass beds (Van Bijsterveldt et al, 2021). This reduces their ability to protect communities from disasters. Healthy ecosystems act as natural buffers, mitigating hazards and reducing impacts on people, infrastructure and services (UNDRR, 2021b). Wetlands, for example, can absorb excess water during floods, while corals, mangroves and coastal vegetation serve as barriers against storm surges and other coastal hazards. The rising spread of plastic pollution compromises the resilience of these ecosystems, impairing their disaster risk reduction functions as well as other ecosystem services. By affecting lives and livelihoods, plastic pollution also further increases the vulnerability of individuals and communities to disasters.

7. Given the complex and far-reaching impacts of plastic pollution on disaster risk, comprehensive strategies and multi-sectoral international cooperation are crucial to effectively address this growing challenge. Strengthening the linkages between plastic waste management and disaster risk reduction is key to ensure coordinated actions that address the environmental and human health as well as the disaster-related dimensions of this issue.

IV. Guidance on the resilience of waste management systems to reduce plastic waste leakage from disasters

8. Disasters often disrupt waste management systems and other infrastructure, leading to increased leakage of plastic waste into the environment (UNEP, 2019). Resilient waste management systems are thus critical to effectively handle plastic waste in the face of disasters. By investing in hard and soft infrastructure—such as waste collection, segregation, and recycling systems—that is resilient to disasters, plastic pollution can be mitigated even during emergency situations. This includes reinforcing landfills and waste processing facilities to ensure they remain functional and can prevent plastic waste from entering waterways and surrounding ecosystems.

9. The Principles for Resilient Infrastructure (UNDRR, 2022) emphasize the importance of designing infrastructure that can endure and recover from disasters while minimizing damage to communities and the environment. Applying these principles to waste management systems ensures that infrastructure is not only functional during normal conditions but also resilient to hazards, reducing the risk of plastic pollution exacerbation during disasters. The Global Methodology for Infrastructure Resilience Reviews (UNDRR, 2023) developed by UNDRR and the Coalition for Disaster Resilient Infrastructure can help assess the

current state of infrastructure resilience, identify gaps that need to be addressed and formulate an implementation plan. By prioritizing risk-informed design, retrofitting existing facilities, and ensuring maintenance and operational resilience, waste management systems can better withstand extreme weather events and other hazards, thus preventing plastic leakage into the environment (UNDRR, 2024b).

10. “Resilient” waste management is different and additional to “safe” and “environmentally sound”. As per the definition outlined in paragraph 3e, resilience comprises the ability of a system exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner. This improves the continuity of critical services, such as waste management systems, in the face of hazards.

11. There is strong support among the international community for resilient infrastructure. The 2030 Agenda for Sustainable Development (A/RES/70/1) includes Sustainable Development Goal 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation) and also includes targets on resilient infrastructure under Sustainable Development Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) under Targets 11.b and 11.c. All three recently adopted programmes of action for countries in special situations, namely the Antigua and Barbuda Agenda for Small Island Developing States (A/RES/78/317), the Doha Programme of Action for Least Developed Countries (A/RES/76/258), and the Gaborone Programme of Action for Landlocked Developing Countries to be adopted in December 2024 (A/CONF.225/2024/4) speak towards resilient infrastructure. Both the Antigua and Barbuda Agenda for Small Island Developing States and the Doha Programme of Action for Least Developed Countries explicitly acknowledge the need for waste management infrastructure.

12. As the scale and intensity of climate hazards increase (UNDRR, 2024a), disasters are likely to impact communities more strongly, with the potential of generating even larger volumes of plastic pollution. An important pathway to mitigate this risk is by ensuring that infrastructure, particularly waste management infrastructure, is built and/or retrofitted to be resilient. Acknowledging the importance of resilient waste management systems in the international legally binding instrument on plastic pollution, including in the marine environment, would contribute to this goal.

V. Current efforts to minimize plastic pollution connected to disaster response

13. Disaster response involves actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. Disaster response is predominantly focused on immediate and short-term needs and is sometimes called disaster relief. Effective, efficient and timely response relies on disaster risk-informed preparedness measures, including the development of the response capacities of individuals, communities, organizations, countries and the international community report (A/71/644). This includes providing medical care, food, water and temporary shelter, among others.

14. While disaster response saves lives and livelihoods, one of its unintended consequences is that significant amounts of plastic waste, particularly of single-use plastics, are often generated (UNEP, 2021). Waste management in disaster response settings is also frequently hampered by deficiencies in national and local waste management systems, plans and options, partly due to a disruption of waste management services because of the disaster, and, in some contexts, due to the lack of these facilities altogether. As a result, there may be an increase in plastic pollution.

15. However, this outcome is not inevitable. While disaster response is a critical priority, and addressing immediate needs is paramount, it is also possible to implement strategies that minimize the plastic pollution impact without compromising the effectiveness of the response. Firstly, disaster risks can be reduced altogether by strengthening disaster risk governance, including through comprehensive disaster risk reduction laws, policies, plans and procedures. In cases disasters do occur, plastic pollution associated with response operations can be reduced or eliminated through robust disaster preparedness efforts that give consideration to the elimination of non-essential plastics. This includes specific policies and guidance, strengthened capacity of individuals, communities, organizations, countries and the international community, as well as the sharing of best practices.

16. Several organizations are already committed to reducing plastic waste in disaster response operations. The Climate and Environment Charter for Humanitarian Organizations (ICRC/IFRC, 2024), signed by over 419 humanitarian organizations, commits to maximizing the environmental sustainability of humanitarian action. This includes reducing waste generated by their programmes. The Charter emphasizes making environmentally conscious decisions, including on the use of plastics and other non-reusable and non-biodegradable materials. Priority issues to address currently being explored include the phase-out of single-use plastics in humanitarian action and the requirement for waste management in humanitarian action.

17. Reducing plastic use in disaster response requires proactive planning and the involvement of multiple actors, including national governments, relief providers, suppliers and the waste management sectors. Strategies include pre-positioning reusable supplies, developing disaster response waste management plans and adopting sustainable practices as integral components of disaster preparedness. Prioritizing sustainable local resources can further reduce plastic use. Procurement practices can formalize principles of 'reduce or reuse', ensure plastics are only used when necessary. The Red Cross Red Crescent's Guidelines on Managing Solid Waste (IFRC, 2020) recommend using treated water instead of bottled water when possible and analysing relief items for unnecessary plastic packaging, as well as establishing an appropriate plastic waste management system. The Logistics Cluster's Waste Management Measuring, Reverse Logistics, Environmentally Sustainable Procurement and Transport, and Circular Economy project supports practitioners in reducing environmental impact, focusing on field-based solutions (Logistics Cluster, 2023), while the Joint Initiative for Sustainable Humanitarian Assistance Packaging Waste Management brings together a consortium of 23 humanitarian stakeholders to address packaging waste, particularly plastic waste (Joint Initiative, 2024).

18. Successful examples of the elimination of single use plastics in disaster response and humanitarian action exist. For example, the International Committee of the Red Cross and the International Federation of Red Cross and Red Crescent Societies have stopped waste from over 14 million plastic bags annually by changing their procurement processes to ensure standard relief items do not include plastic packaging (IFRC, 2022). The World Central Kitchen has adopted reusable food containers for food distribution during disaster relief efforts (Packaging Gateway, 2019). ACTED Lebanon has implemented a comprehensive strategy to reduce single use plastic and support local waste management solutions (Joint Initiative, 2024). The Red Cross Red Crescent Movement and the UN Refugee Agency have designed more eco-friendly core relief item options that reduce the amount of virgin plastic used, including an eco-tarpaulin (Logistics Cluster, 2023).

19. These examples highlight the potential to improve the plastic footprint of disaster response efforts through investments in disaster risk governance. By keeping disaster response efforts in the scope of a legally binding instrument to address plastic pollution, including in the marine environment, the international community can help guide and reinforce these initiatives. If temporary exemptions are required in certain extenuating circumstances, UNDRR would recommend structuring them in a manner that enhances progressive efforts to move towards less plastic-intensive disaster response efforts, in line with efforts currently underway.

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