ENVIRONMENTAL AND HEALTH EMERGENCIES

the role of the Basel, Rotterdam and Stockholm conventions in supporting Parties in prevention, preparedness, response and recovery

2022

SECRETARIAT OF THE BASEL, ROTTERDAM AND STOCKHOLM CONVENTIONS

BRS CONVENTIONS

Food and Agriculture Organization of the United Nations

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EXECUTIVE SUMMARY

This document was initially prepared between October 2020 and March 2021 in preparation for the meetings of the conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions then planned for June 2021, and reflects events and information available at that time. It has not been generally updated to take account of any later events or information, except for a small number of references to particular events and to reference a few studies which give later assessments of the impact of the COVID-19 pandemic on waste management. The coronavirus disease (COVID-19) pandemic, and the measures which governments have taken in response, have had significant and wide-reaching impacts, affecting virtually every country and all aspects of life. Although the priority has been to save lives and stop the spread of the virus, there have been many other issues to which public authorities have had to respond, including some of which fall within the scope of the Basel, Rotterdam and Stockholm (BRS) conventions.

This report examines the relevance of the conventions in response to the environmental and health emergencies, including the COVID-19 pandemic, and the lessons learnt. The report describes how the conventions are relevant to support Parties in their work on preventing, preparing for, responding to, and recovering from emergencies.

The BRS conventions are an important part of the international framework seeking to achieve the sound management of chemicals and waste. They set out a range of legally binding obligations, concerned with risks associated with hazardous and other wastes and their transboundary movements, international trade in hazardous chemicals and pesticides, and with persistent organic pollutants (POPs). Although many of the provisions are not directly concerned with emergency preparedness and response, adopting measures to ensure the sound management of chemicals and waste will reduce vulnerability to crises and support preparedness, response and recovery.

Guidance and guidelines, sharing information and knowledge, technical assistance, developing national capacity, and in certain circumstances financial assistance, are very relevant to this effort. Some of these are specifically directed at emergency preparedness, for example training seminars on emergencies. The Conference of the Parties to the Basel Convention has established a specific mechanism under which the Secretariat may provide support, on request, to a Party facing an emergency related to transboundary movements of wastes covered by the Convention.

The Secretariat works closely with a number of other agencies and organisations in responding to emergencies. Particularly important in the context of environmental emergencies are the United Nations Environment Programme (UNEP) and the Office for the Coordination of Humanitarian Affairs (OCHA), and the Joint Environment Unit which they have established. It is important to further strengthen cooperation with the World Health Organization (WHO) to deal with chemicals and waste implications of health emergencies.

The most significant impact of the COVID-19 pandemic for the conventions concerned waste management. There were very large volumes of potentially contaminated clinical waste generated by hospitals and other health care facilities. The volume of plastic waste, in particular waste from single-use plastic products surged. Other impacts observed include the greater use of disinfectants and hand sanitizers. The patterns of generation of domestic and commercial waste changed, for example due to the higher demand for online shopping, more use of food delivery services, and more consumption of products at home during lock down. There were challenges in operating collection, recycling and disposal facilities. Many countries initially struggled to cope and needed to increase capacity in the waste management system. There was also disruption to transboundary movements of waste. The principles which underpin the Basel Convention are clearly relevant in responding to these challenges.

At the outset, the Secretariat stressed the importance of environmentally sound management of waste during the pandemic. The application of the technical guidelines on the environmentally sound management of biomedical and healthcare wastes[1] was highlighted, together with the factsheets on healthcare or medical

[1] http://www.basel.int/tabid/8025.

waste[2] which provided accessible information for governments and other stakeholders published by the BRS Secretariat and UNEP.

The COVID-19 pandemic had a significant effect on the work of the conventions. The Secretariat adopted ways of working remotely, which has allowed many activities to continue although the full range of the conventions' work will only be resumed when face-to-face activities are possible. The Secretariat has identified lessons about strengthening resilience and maintaining key operational aspects of the conventions, and also about the scope to increase the impact of its work in future through continuing virtual engagement in some circumstances.

The pandemic has had unprecedented effects, and had a disproportionately heavy impact on women, older people, youth and children, as well as the poor, vulnerable, and marginalised segments of the population. The UN General Assembly has recognised that coming out of the pandemic crisis will require a whole of society, whole of government and whole-of-the-world approach. The 2030 Agenda for Sustainable Development is a basis for 'building back better". Securing the sound management of chemicals and waste is a key component, and the conventions have a key role in achieving that.

[2] http://www.basel.int/tabid/5839.

1. INTRODUCTION

Over the last years, the COVID-19 pandemic has impacted on almost every country, and on all aspects of life. Many have been affected by illness, or by the impact of the measures which have been necessary to control the spread of the disease. Family life has been disrupted, education has been interrupted, and industrial, commercial and leisure facilities have been closed. Food is in short supply in some places. The social and economic impacts of the pandemic will be felt for several years to come.

Although the pandemic has been a health emergency in the first instance, there have been implications going far beyond health issues. It has given rise to economic, social and environmental challenges, including challenges for the sound management of chemicals and waste. It has therefore demanded a response from the international agencies concerned with chemicals and waste. Other events such as natural disasters or accidents can also give rise to challenges which can be as serious, although usually on a more local scale.

This report identifies the issues and challenges raised by the environmental and health emergencies which are relevant to the BRS conventions, to describe the response taken by the BRS Secretariat and, where relevant, other organisations dealing with chemicals and waste issues. It seeks to draw out lessons learned and to guide work in future.

The work of the BRS conventions is relevant both in prevention of and preparation for emergencies, and in the response and recovery. Action taken under the conventions can strengthen the capacity of Parties to achieve the sound management of chemicals and waste and help to minimise risks, contributing to prevention and preparedness. **Box 1** below describes generally recognised phases in emergency planning and response.

The Secretariat itself is not the "first responder" in a crisis, but the expertise and knowledge held within the Secretariat and its network of Parties and other contacts can provide essential and rapid support to Parties and to those organisations with the primary mandate to respond.

The work of the conventions is a central part of the global effort to achieve the Sustainable Development Goals, in particular SDG 12.4 to achieve the environmentally sound management of chemicals and waste throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment. At a time of emergency including a pandemic, the primary and urgent response is to preserve life, heal the sick, and protect society. The sound management of chemicals and waste may not seem a priority issue. However, experience during the COVID-19 pandemic has shown that there are important issues which need to be addressed even during the response phase of a crisis, and even more so in the preparation and recovery phases.

As countries put in place their plans for recovery, it will become increasingly important to integrate the sound management of chemicals and waste into policy and plans. This concerns human rights as it is often the poor or marginalised who suffer most from the environmental impacts of emergencies.

This report is not itself a guidance document on how to prepare for and respond to emergencies. There are many good sources of guidance already available. There are also well-established structures in place within the United Nations system as well as beyond to deliver support to countries in responding to emergencies. This report is rather about how the BRS conventions can play a full and effective part in supporting those arrangements.

BOX 1: EMERGENCY PLANNING AND RESPONSE

There are three generally recognised phases in emergency planning and response: preparedness, response, and recovery. The Glossary of Health Emergency and Disaster Risk Management Terminology published by the WHO describes these as follows:

Preparedness

The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.

Response

The provision of emergency services and public assistance 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.

Recovery

The restoring or improving of livelihoods and health, as well as economic, physical, social, cultural and environmental assets, systems and activities, of a disaster-affected community or society, aligning with the principles of sustainable development and 'build back better', to avoid or reduce future disaster risk.

2. ENVIRONMENTAL AND HEALTH EMERGENCIES AND IMPLICATIONS FOR CHEMICALS AND WASTE

A. ENVIRONMENTAL EMERGENCIES

Disasters, conflicts and the environment are intrinsically intertwined. There are a wide range of potential emergencies, ranging from disasters caused by natural hazards to accidents in chemical plants, that can cause massive, negative environmental impacts.[3] The three occasions in which the BRS Secretariat has been specifically involved in providing support to Parties under environmental emergencies within areas covered by the conventions are described in **Box 2**.

A particular sub-set of environmental emergencies is those associated with the production, storage or use of hazardous chemicals. The most infamous are the explosion at Seveso in 1967 where an explosion at chemical plant resulted very high exposure to 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) in the local residential populations, and the incident at Bhopal in 1984 where a leak at a pesticide plant resulted in over 500,000 people being exposed to methyl isocyanate gas. More recently, the explosion in September 2020 in Beirut at a storage facility for ammonium nitrate caused many deaths and widespread destruction and pollution (World Bank 2020).

BOX 2: CASES WHERE THE BRS SECRETARIAT HAS PROVIDED SUPPORT TO PARTIES IN ACCORDANCE WITH THE EMERGENCY SUPPORT MECHANISM

Côte d'Ivoire (2006)

The Government of Côte d'Ivoire made a formal request for assistance on 25 September 2006, following an incident related to the dumping of hazardous substances at several sites around the district of Abidjan in August 2006. The Secretariat and the UNEP/OCHA Joint Environmental Unit established rapid assessment mission under the emergency mechanism, and an assessment was carried out from 20 November to 1 December 2006. Funds from the Basel Convention Implementation Fund were used.

Senegal (2008)

In 2008 the Secretariat organised an expert mission to Senegal, following suspected instances of acute lead poisoning in the population of Thiaroye-Sur-Mer, a district of the capital Dakar. 18 children died from an aggressive central nervous system disease between November 2007 and March 2008 (Potera 2009). The source of the lead was thought to be dust in the air and soil in the yards of homes. At the time, one of the main sources of income in the district was the informal recycling of used lead-acid batteries from vehicles. The Secretariat together with the Senegalese Ministries of Health and the Environment and Natural Resources established a task force, including experts from the International Lead Management Center, the Blacksmith Institute, and the University of Dakar's Toxicology Department, to reduce lead exposure and develop a safe battery recycling industry (ILA 2014).

[3] An environmental emergency has been defined as "a sudden onset disaster or accident resulting from natural, technological or other human-induced factors, or a combination of these, that cause or threaten to cause severe environmental damage as well as loss to human lives and property. This damage includes secondary environmental consequences from natural hazards such as earthquakes, storms, floods, tsunamis, wildland fires, landslides and/or man-made disasters such as industrial accidents, transport accidents, chemical spills, oil spills and a multitude of other types of emergencies. Sometimes, a natural event such as a storm or earthquake can trigger a technological accident (a so-called Natech event), which subsequently may lead to the release of chemical contaminants." UNEP/GC.22/INF/5, 13 November 2002.

Paraguay (2015)

The Government of Paraguay requested assistance following a fire in a transformer depot in the Laurelty – San Lorenzo municipality, 11 km from the capital Asuncion on 14 October 2015. The depot was in a densely populated metropolitan area, and covered about 27 hectares, and the fire affected about 2 hectares. It affected stored transformers, capacitors, and other materials that potentially contained polychlorinated biphenyls (PCBs), which can generate large amounts of dioxins and furans. The Ministry of Environment of Paraguay officially requested UNEP and the BRS Secretariat to provide technical assistance and guidance. A mission took place on 9 - 22 November 2015. The main objective was to evaluate the extent of the environmental risk to the fire-affected sites, including the associated runoff, leaks, spills and waste, and provide recommendations for managing the waste resulting from the incident. The objectives also included assessing the extent of human health risks at the fire-affected sites and provide guidance for reducing future risks.[4]

There are a number of international regimes designed to minimise the risks and address the consequences of operations related to chemicals such as the OECD Programme on Chemical Accidents which helps public authorities, industry, labour and other interested parties prevent chemical accidents and respond appropriately if one occurs (OECD 2021). The Words into Action Guideline on Man-made/technological hazards provides key recommendations on how to strengthen readiness for this type of emergency (UNDRR 2018).

The 2019 Global Chemical Outlook (GCO-II) gave a recent example of the impact of Hurricane Harvey on chemical plants and refineries in Texas, USA, where oil and wastewater and chemicals such as benzene, vinyl chloride and butadiene were released. It also drew attention to the risk of chemical releases from tailing ponds at mining sites when dams break (UNEP 2019). GCO-II also notes a report from WHO which drew attention to chemical releases that may be directly and indirectly triggered by the increasing frequency of natural hazards such as earthquakes, hurricanes, tsunamis, floods and forest fires (WHO 2018).

Emergencies like the 2020 Beirut port explosions or the damage of an oil storage terminal and several facilities handling hazardous materials after 2019 hurricane Dorian in The Bahamas in 2019 also show the large amount of crisis waste, including hazardous waste, that can be generated as a consequence. This hampers access for emergency relief, can lead to additional adverse humanitarian and environmental impacts, and can undermine the effectiveness of humanitarian response as a whole. Managing huge quantities of crisis waste is a challenge even for the most developed countries, often with transboundary implications.

More recently, the Singapore-flagged cargo ship, MV X-Press Pearl, caught fire in May 2021 and sank off the coast of Sri Lanka in June 2021. The ship was reportedly carrying 1,486 containers out of which large numbers, including those containing hazardous chemicals and plastics, fell into the sea before the fire was doused. The UNEP reported that the incident has had a significant impact on Sri Lanka's sensitive coastal environment, local communities and the economy (UNEP 2021b). Following the incident, the United Nations Resident Coordinator in Sri Lanka and the UNEP Executive Director received an official request from the Government of Sri Lanka for technical support. In response, the UNEP/OCHA Joint Environment Unit mobilised a team of experts to advise the Government of Sri Lanka. In July 2021, the BRS Secretariat provided technical inputs to the online round table discussion on marine pollution jointly organized by the United Nations Office on Drugs and Crime and UNEP for the countries in the Indian Ocean, including Sri Lanka.

[4] https://www.unep.org/explore-topics/disasters-conflicts/where-we-work/paraguay.

B. HEALTH EMERGENCIES – THE COVID-19 PANDEMIC

1. IMPACT ON THE WASTE GENERATION AND MANAGEMENT

The COVID-19 pandemic is a global health emergency that has affected every country in the world. Governments adopted a range of responses to bring the pandemic under control. The measures taken necessarily had significant social and economic implications. The pandemic has disrupted normal life in one way or another for a large proportion of the global population. The challenge continues, although as vaccines are progressively rolled out there is hope that things can return to normal in the near future.

The pandemic has had many and mostly adverse implications for waste management. There were rapid changes in the amounts and types of waste being generated, and waste management authorities faced challenges in managing it in an environmentally sound manner. Direct impacts included a significant increase in the amount of clinical waste being generated, and indirect impacts included disruption to the arrangements for collecting and handling waste and their transboundary movements.

These impacts varied in different countries depending on local circumstances, the severity of the pandemic, the way it was managed, and the capacity and flexibility of available waste management systems. This report is not a systematic survey of the implications, but the following paragraphs describe some of the key challenges in general terms, and **Box 3** below gives specific examples and statistics about the effects of the pandemic.

The COVID-19 pandemic had serious implications across the three pillars of the Basel Convention: prevention and minimization of the generation of waste; environmentally sound management; and control of transboundary movements.

(a) Impact on the generation of waste:

- A very significant increase in the volume of clinical waste being generated in hospitals and other health care facilities, including highly infectious waste, other infection and pathological waste, sharps waste, pharmaceutical and cytotoxic waste, face masks, chemical waste, and general healthcare waste arising both from patients and from healthcare workers treating them and wearing personal protective equipment. In addition, the vaccination programme will generate an enormous number of single-use plastic syringes;

- The very widespread use of facemasks or other protective equipment by the public, often containing plastics and often used only once. These have sometimes required manual segregation from household waste before recycling or other disposal operations. Many masks have been disposed of inappropriately causing pollution;

- Changes in working patterns (for example, working from home) or in shopping habits (for example, the growth in internet shopping) impacted on the pattern of waste generation. Restaurants and leisure facilities closed, and people spent much of their time at home;

- Recycling rates for plastics fall significantly, owing partly to the historically low oil price (itself a consequence of the pandemic) so that the cost of virgin resin was been reduced significantly compared to the cost of recycled resin;

- Efforts to prevent and minimize the generation of plastic waste by tackling its sources, for example by switching to alternative materials, suffered a setback. Demand for single use plastics increased in packaging (for example, for home deliveries) and in face masks.

(b) Impact on the environmentally sound management of waste:

- Waste management systems were under severe pressure handling potentially contaminated waste. While some countries were able to cope, for example, by increasing the number of waste facilities able to handle such waste, or by increasing storage capacity, others faced difficulties. Responses such as prioritising medical waste may have led to a consequent reduction in the capacity to handle other wastes, allowing more waste facilities to handle infectious medical waste, and increasing the capacity to store medical waste. Government organisations published

guidance and advice to waste collection organisations or to the public to encourage waste minimization and segregation;

- During the early stages of the pandemic, and in the absence of scientific information about the risk, it was often assumed that all waste from health care facilities was potentially contaminated with COVID-19 and so should automatically be treated as hazardous. Wastes management systems designed on the basis of wastes being segregated according to risk were overwhelmed by the volume of unsorted waste;

- Household waste potentially included contaminated items. There were initial concerns that the virus might remain on surfaces such as glass, metal, and particularly plastics for several days and hence environmentally sound management of these waste streams was seen as particularly important. Precautionary measures taken for the collection of household waste, which disrupted normal collection systems. In some regions, the advice was to stop collection and recycling activities altogether;

- There was disruption to the normal systems of collecting, recycling and other disposal operations of waste due to the effects of lockdown measures. Recycling and waste management centres were often closed, or access was restricted, and municipal waste collections systems were often amended as part of measures to maintain social distancing or to keep workers safe;

- Formal medium and small sized recyclers face challenges, as they are not able to operate at normal capacity and thus may be forced out of business at a time when their services may in fact be more in demand;

- The informal sector has been impacted particularly heavily: informal waste pickers undertake a significant share of the collection of wastes, in particular plastic waste, in many developing countries. Working with little societal or personal protection, informal waste collectors face a double risk: to their livelihoods, because they cannot work or can only work at reduced capacity. And to their health, as they often do not have access, or lack the necessary awareness, to protective equipment or to adequate government support. The poor and marginalized are among those worst impacted by both COVID-19 and environmental harms, such as plastic pollution, which directly and indirectly threaten the full and effective enjoyment of all human rights including the rights to life, water and sanitation, food, health and housing;

- There was a growth in illegal dumping of waste, and greater possibilities for organised crime to exploit the situation.[5]

(c) Impact on the control of transboundary movements of waste:

- Some countries decided to prohibit or restrict imports of certain wastes or to close borders for a period of time and alternatives for the environmentally sound management needed to be found – either by expanding local capacity, or by finding alternative countries able and willing to accept imports and changing shipping routes, often at an additional cost;

- Options to export waste to countries with adequate facilities were limited. For example, many European facilities have closed or operated at limited capacity. Countries that lack facilities for the adequate waste management, to import and export plastic waste for environmentally sound treatment and disposal in other countries faced particular difficulties. On the other hand, those at the receiving end also operated at lower capacities, as other regions remain in lockdown resulting in lower demand for such services capacity.

Although many countries faced significant challenges and had to adapt rapidly, the principles of the environmentally sound management of waste which underlie the Basel Convention remain relevant even in crisis situations. For example, the Convention encourages the treatment of waste as close as possible to the point of generation, and Parties have an obligation to take measures to ensure the availability of adequate disposal facilities for the environmentally sound management located to the extent possible within them, whatever the place of disposal. Many countries did rapidly expand their domestic capacity for handling contaminated waste by creating new capacity, or by burning waste in cement kilns for example.

[5] https://www.interpol.int/en/News-and-Events/News/2020/INTERPOL-report-alerts-to-sharp-rise-in-plastic-waste-crime.

Listed below are for further reading:

(a) Peng et al., 2021. Plastic waste release caused by COVID-19 and its fate in the global ocean. Proceedings of the National Academy of Sciences of the United States of America. 23 November 2021 118 (47) e2111530118. https://www.pnas.org/content/118/47/e2111530118;

(b) Roy et al., 2021. Impacts of COVID-19 Outbreak on the Municipal Solid Waste Management: Now and beyond the Pandemic. ACS Environ. Au 2021, 1, 1, 32–4. https://pubs.acs.org/doi/full/10.1021/acsenvironau.1c00005;

(c) Sarkodie and Owusu, 2021. Impact of COVID-19 pandemic on waste management, environment. Development and Sustainability. 23, 7951-7960. https://link.springer.com/article/10.1007/s10668-020-00956-y;

(d) Singh et al., 2022. Solid waste management during COVID-19 pandemic: Recovery techniques and responses. Chemosphere. Volume 288, Part 1. February 2022, 132451. https://www.sciencedirect.com/science/article/pii/S0045653521029234?dgcid=rss_sd_all;

(e) Yousefi et al., 2021. Municipal solid waste management during COVID-19 pandemic: effects and repercussions. Environ Sci Pollut Res Int. 3 May 2021 : 1–10. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8092713/.

BOX 3: EXAMPLES OF THE IMPACT OF THE COVID-19 PANDEMIC ON WASTE GENERATION AND MANAGEMENT

This box gives some examples of the implications of the pandemic for waste management. They may not be typical of the situation in every country, but they illustrate a range of experiences.

- Each infectious person generates 3.4kg of infectious medical waste each day. Given the number of cases at the peak this risked overwhelming the capacity available to cope with it (Asian Development Bank 2020).
- In Wuhan China, the amount of hazardous medical/chemical waste reached 240 tons a day, compared with 40 tons a day normally. Maximum incineration capacity was 49 tons a day (Haque et al, 2020). Central government deployed 46 mobile medical waste treatment facilitates to the city and built a new plant with a capacity of 30 tonnes within 15 days (South China Morning Post 2020).
- In Spain, more clinical waste was generated in 15 days at the peak of the outbreak than in the whole of 2019, and that possibly highly contaminated waste was being stored in unsuitable places. While in Mexico for example human and other clinical wastes were found dumped in woodlands. In other places, the storage boxes for transporting clinical waste ran out (Pellegrino 2020).
- Due to the overwhelming tonnes of waste generated during the lockdown, the Irish government announced a million euros funding ring-fenced to tackle the level of illegal dumping attributed to the COVID-19 crisis (DCCAE 2020).
- Many national or local government organisations published guidance and advice to waste collection organisations or to the public to encourage waste minimization and segregation (Kulkarni et al 2020).
- UNCTAD estimated that global sales of face masks would total some USD166 billion in 2020, up from around USD800 million in 2019 (UN 2020b).
- In China, daily production of face masks rose to 116 million in February, twelve times higher than the previous month (WEF 2020).
- Discarded masks have been found on beaches near Hong Kong and at Lake Geneva to give two examples (Oceans Asia 2020; Swiss Info 2020).
- In March 2020, some major coffee chains paused filling reusable containers in favour of single-use receptacles (Wall Street Journal 2020).

- In the US, more than 100 cities and states suspended their curb-side recycling programs during the pandemic (WWF 2020).
- The Asian Development Bank recommended that "recycling activities should be avoided to prevent human contact with any potentially infectious domestic and medical waste. All municipal waste should be treated as non-recyclable and disposed of through incineration or sanitary landfill. Landfill sites with informal waste picking will need increased management and security" (ADB 2020).
- In Milan, Italy, food waste from commercial activities fell by 80%, and the total amount of solid municipal waste falling by 27% in March (AMSA 2020). But in the United States volumes peaked nationally at about 20% higher than normal, with some localities experiencing an increase of more than 30% (SWANA 2020).
- Income of informal waste collectors and recyclers reduced significantly in India - by up to 87% with waste workers in Delhi and 53% in Surat (INOPOL 2020; Bharat 2021).
- By April 2020 oil prices had dropped by 72% from the same period in 2019. Lower oil prices reduce the cost of virgin resin significantly but have a less impact on the cost of recycled resin, which is based on collection, cleaning, shredding and other processing (ICIS 2020).
- The United Kingdom saw 300% rise in illegal waste disposal during the lockdown period (WEF 2020).

2. IMPACT ON THE USE OF CHEMICALS

One noticeable feature of the initial phase of the pandemic was the explosive increase in demand for personal protective equipment (PPE), either for medical grade equipment for use in hospitals or other healthcare setting, or facemasks for general use. Stocks at the outset were insufficient, and significant sources of supply were not available due to lock down. There were also new demands for hand sanitisers. New sources of supply were opened up, for example in some cases national regulators sought to help by clarifying regulatory requirements and to assist so that products could be brought to market quickly. There were problems with unsafe products, for example particular alcohol-based hand gels containing methanol, which required enforcement action to protect the public. Some but not all applications of disinfectants were in accordance with WHO guidance. **Box 4** below provides examples of these issues.

It is possible that some of these changes in demand and new sources of supply engaged with issues covered by the conventions, for instance chemicals used in the supply chain may be subject to the Rotterdam Convention's Prior Informed Consent procedure. However, there is no evidence available to the Secretariat that this has given rise to problems, or that the correct procedures were not applied.

BOX 4: PERSONAL PROTECTIVE EQUIPMENT, SANITISERS AND DISINFECTANTS

The COVID-19 pandemic significantly increased demand for personal protective equipment (PPE), disinfectants and hand gels. This brought new producers into the market and opened up new supply chains. Some regulators moved swiftly to facilitate supplies.

Demand for PPE rocketed from March 2020, when medical and care workers, together with key workers in other industries, started to require protection from patients, colleagues and members of the public who potentially had COVID-19. There was a global surge in demand. At the same time, the global supply of PPE declined as a result of a fall in exports from China (a leading global manufacturer of PPE). At times, many front-line workers in health and adult social care reported not having access to the PPE they needed during the height of the shortages (NAO 2020).

There was increased demand for disinfectants and hand sanitisers. Unauthorised and potentially unsafe products were put onto the market, for example some hand-sanitizers were found to contain potentially toxic chemicals such as methanol (US FDA 2021), and in some cases contained insufficient alcohol to be effective (Which 2020).

Transparent and accurate information sharing has been vital to ensure appropriate use of PPE, sanitisers and disinfectants. WHO advised that large-scale spraying or fumigation in outdoor spaces such as streets or open market places for the COVID-19 or other pathogens is not recommended because streets are not considered as routes of infection and spraying disinfectants, even outdoors, can be noxious for people's health and cause eye, respiratory or skin irritation or damage.[6] WHO also recommended against spraying individuals with disinfectants such as in a tunnel, cabinet, or chamber, as this could be physically and psychologically harmful and would not reduce an infected person's ability to spread the virus through droplets or contact. Spraying individuals with chemicals such as chlorine can lead to eye and skin irritation, bronchospasm due to inhalation, and potentially gastrointestinal effects such as nausea and vomiting. In addition to health safety concerns, the use of chlorine in large-scale spraying practices may prevent this resource from being used for important interventions such as drinking water treatment and environmental disinfection of health care facilities. Indoors, in non-health care settings, WHO recommended sodium hypochlorite (bleach/chlorine) may be used at a recommended concentration of 0.1% or 1,000ppm (1 part of 5% strength household bleach to 49 parts of water). Alcohol at 70-90% can also be used for surface disinfection.[7]

A number of national regulatory authorities made extra efforts to explain their regulatory requirements or used expedited procedures to facilitate access to products such as disinfectants or hand-gels. For example, the European Chemicals Agency provided extra information to the EU Member States and companies to explain the circumstances in which disinfectants could enter the market quickly. They saw the need to ensure an adequate supply of active substances for use in biocidal products for disinfection purposes, and provided information on the key compositional requirements for sodium hypochlorite, hydrogen peroxide and peracetic acid to ensuring their optimal efficacy and to help minimise risk.[8] They also provided advice on regulatory requirements for those seeking to make disinfectants available on the EU market, particularly biocidal products that are meant to be used for human hygiene, surface disinfection, and for disinfecting surfaces in contact with food and feed.[9]

(a) The chemical industry

A survey of the chemical industry in June 2020 carried out by Chemical Watch found a variety of impacts on the chemical industry. For some, there was increased demand for alcohol-based products, sanitisers, personal care products, semiconductors, testing kits, laboratory consumables, food and pharmaceuticals and PPE which represented an opportunity, while for others the general economic slowdown had reduced orders. Many companies reported that they had pivoted their production lines to support activities to control the COVID-19 pandemic (Chemical Watch 2020).

(b) Regulatory issues

In addition to the extra explanatory efforts or expedited procedures, there were some delays to regulatory processes. A survey by Chemical Watch in June 2020, based on responses from 19 authorities, found that 21% of the respondents considered that their regulatory actions had slipped, whereas 37% reported that their schedules remained unchanged (Chemical Watch 2020).

There were some temporary relaxation or delays to facilitate safer ways of working or shopping at the height of the pandemic. In response to sanitary and hygiene concerns, many regulators across the world have paused or delayed bans, taxes, or fees on plastic items as well as recycling initiatives. For instance, the UK ban on single-use plastic straws, stirrers and cotton buds was pushed back by five months (WWF et al. 2020). California suspended the state's single-use bag ban for 60 days (California 2020).

[6] https://www.who.int/news-room/q-a-detail/coronavirus-disease-covid-19-cleaning-and-disinfecting-surfaces-in-non-health-care-settings.

[7] Ibid.

[8] https://echa.europa.eu/documents/10162/28801697/recommended_requirements_chlorine_based_active_substances_en.pdf/f1be8a55-87e4-2ac0-67f4-602c41c3abc1.

[9] https://echa.europa.eu/documents/10162/28801697/q_a_covid_disinfectants_en.pdf/f380496a-d61a-1ff1-ee78-12d302c5d520.

(c) Enforcement issues

Enforcement became more challenging during the pandemic, with staff working from home and needing to remain safe on the one hand, and supply chains or waste disposal routes changing on the other. The vastly increased volume of waste in particular posed problems (Olney 2020; Pelegrini 2020). The Basel Convention Environmental Network for Optimizing Regulatory Compliance on Illegal Traffic (ENFORCE) provided support for national enforcement authorities (see section III.B.6.).

3. THE ROLE OF THE BRS CONVENTIONS ON EMERGENCY PREPAREDNESS AND RESPONSE

This section gives an overview of how the BRS conventions are relevant to work on emergency preparedness and response, and how the Secretariat, working with other United Nations and international agencies as appropriate, supports Parties in this effort.

A. THE RELEVANCE OF THE CONVENTIONS

The BRS conventions are part of the global framework addressing the sound management of chemicals and waste. The conventions share the common objective of protecting human health and the environment from hazardous chemicals and waste at all stages of their life cycle, from production to disposal. Each deal with a specific set of issues: the control of transboundary movements of hazardous wastes and their disposal; the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade; and POPs.

The conventions are not primarily concerned with emergencies, and only a part of the Secretariat's work is specifically addressed towards emergency planning and response. Nevertheless, a large part of the conventions' work is relevant because if chemicals and waste are managed in an environmentally sound manner and objectives of the conventions are being achieved, this will reduce the vulnerability to harm as a result of environmental and health emergencies. If Parties have developed the capacity to manage chemicals and waste safely, and have access to the knowledge, guidance and information to support their work, they will be better placed to respond to and recover from environmental emergencies.

Effective implementation of the control provisions of the BRS conventions contributes to reducing vulnerability, by ensuring more informed decision making and improved sound management of chemicals and waste. The possibility of their dynamic development in the light of emerging new information, for example, the listing of additional chemicals under the Rotterdam and Stockholm conventions, or the recent amendments to the Annexes to the Basel Convention to better control transboundary movements and ensure environmentally sound management of plastic waste, means that they can remain relevant as new or emerging issues are identified within their respective mandates.

1. BASEL CONVENTION

The objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes. Its scope of application covers a wide range of wastes defined as "hazardous wastes" based on their origin or composition and their characteristics, as well as wastes defined as "other wastes" which include household waste, incinerator ash and certain plastic wastes. Its provisions centre around the following principal aims:

(a) The reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal;

(b) The minimisation of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management;

(c) A control system applying to cases where transboundary movements are permissible.

(a) Strategic framework for the implementation of the Basel Convention

The strategic framework for the implementation of the Basel Convention for 2012–2021 was adopted by the Conference of the Parties at its tenth meeting.[10] It sets out a number of guiding principles, and defines three

[10] Decision BC-10/2.

goals: (1) effective implementation of Parties' obligations on transboundary movements of hazardous and other wastes; (2) strengthening the environmentally sound management of hazardous and other wastes; (3) promoting the implementation of the environmentally sound management of hazardous and other wastes as an essential contribution to the attainment of sustainable livelihood, the Millennium Development Goals and the protection of human health and the environment.

(b) Framework for the environmentally sound management of hazardous wastes and other wastes

The framework for the environmentally sound management of hazardous wastes and other wastes was adopted by the Conference of the Parties at its eleventh meeting.[11] It establishes a common understanding of what "environmentally sound management (ESM)" encompasses and identifies tools and strategies to promote the environmentally sound management.

(c) ESM toolkit

The ESM toolkit provides practical tools to support Parties. In particular, a number of factsheets have been prepared, including one on Healthcare and Medical Waste.[12] The final evaluation of the strategic framework is currently ongoing. For further information, see document UNEP/CHW.15/3 on strategic framework.

To the extent that hazardous wastes are minimised and managed in an environmentally sound manner, the risk of hazardous waste posing a risk in a natural disaster or some other emergency will be reduced, as will the risk of waste itself causing an emergency. And as described in the previous section the COVID-19 pandemic put severe pressure on waste management systems. The approaches which underpin the Basel Convention provide the basis for national responses and supporting ways to relieve the pressure on these systems.

(d) The Basel Convention emergency mechanism

In its decision V/32, the Conference of the Parties to the Basel Convention decided to assist Parties that are developing countries and countries with economies in transition in cases of emergency and compensation for damage resulting from incidents arising from transboundary movements of hazardous and other wastes and their disposal.[13] In order to prevent emergencies, decision V/32 also gives the possibility for Parties that are developing countries and countries with economies in transition to apply for assistance to develop their capacity-building and transfer of technology and put in place measures to prevent accidents and damage to the environment caused by the transboundary movement of hazardous wastes and other wastes and their disposal.

In 2015, the Conference of the Parties amended the interim guidelines on the implementation of decision V/32 after a review of experience in operating the scheme.[14] The Conference of the Parties also adopted the standard form for request for emergency assistance set out in document UNEP/CHW.9/27, available in the six United Nations languages.[15] The provisions of the Interim Guidelines are summarized in **Box 5** below. The information on the balance of the emergency support fund was reported at the fourteenth meeting of the Conference of the Parties to the Basel Convention in document UNEP/CHW.14/INF/56.

The mechanism has been triggered to provide assistance to Côte d'Ivoire following an incident described in **Box 2** above. The Secretariat drew a number of lessons from its experience of handling this request, in particular about the complexity of the processes involved in making a decision, and the modest resources available in the fund. Some of these concerns have been addressed as the guidelines and application form have been updated.

[11] Decision BC-11/1.

[12] UNEP/CHW.13/INF/7/Rev.1.

[13] http://www.basel.int/tabid/4764.

[14] Decision BC-12/11, http://www.basel.int/tabid/4765.

[15] http://www.basel.int/tabid/2370.

BOX 5: INTERIM GUIDANCE ON THE IMPLEMENTATION OF THE BASEL CONVENTION'S EMERGENCY MECHANISM

The guidelines describe four qualifying criteria:

(a) An incident falling within the scope of these Guidelines must have occurred;

(b) There must be a grave and imminent threat that (further) damage will be caused by the incident;

(c) Any request must relate to measures which are deemed urgent, necessary, reasonable and justifiable as jointly agreed by the affected Party and by the secretariat.

(d) The request is admissible only if and to the extent the damage arises out of or results from hazardous properties of the hazardous wastes and other wastes involved in the incident;

(e) The developing country or country with economy in transition requires assistance in order to be capable of effectively preventing or mitigating the damage.

When deciding whether to give support, the Executive Secretary is required to take into account:

(a) The gravity of damage that may occur;

(b) The degree of imminence and threat that such damage may occur;

(c) The nature and cost of urgent and necessary reasonable measures;

(d) Which assistance is required by the requesting country;

(e) Availability of bilateral assistance;

(f) Availability of funds; and

(g) Conditions imposed by donors.

There are however some requirements on the requesting Party:

(a) The Party which requests emergency assistance will first try to solve the problems with its own means;

(b) If there is a national system for emergency assistance in response to incidents, measures under the national system will first be taken. If these measures are not sufficient the request for assistance may be made;

(c) If the citizens or companies of the Party to the Convention in which the incident happened have been responsible for causing the incident, the Party should take actions to compel these persons or companies to participate in the prevention of the damage or its mitigation. If this is not possible, the Party should take the required actions itself, and later take legal action to recuperate the funds received from the Technical Cooperation Trust Fund. Parties can assign their rights to legal action to the secretariat to recover the money paid out by the Trust Fund;

(d) The amount received in such legal action should serve to reimburse the Technical Cooperation Trust Fund for the amount taken from the Fund to provide assistance.

2. ROTTERDAM CONVENTION

The Rotterdam Convention creates legally binding obligations for the implementation of the Prior Informed Consent procedure. The objectives are:

(a) To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm;

(b) To contribute to the environmentally sound use of those hazardous chemicals, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties.

Every six months, Parties receive summaries of the information in notifications received by the Secretariat of final regulatory actions taken by Parties concerning chemicals and pesticides. The Convention also provides a mechanism for developing country Parties and those that are countries with economies in

transition to propose the addition in Annex III of severely hazardous pesticide formulations with which they are experiencing problems in their territories. For chemicals listed in Annex III to the Convention, Parties need to transmit to the Secretariat within set timelines their responses about future imports, which are posted on the Convention website.[16]

In addition, a Party must notify each importing Party before exporting chemicals that are banned or severely restricted in the exporting State. A form has been adopted by the Conference of the Parties for this purpose. Exports of banned or severely restricted chemicals, as well as chemicals subject to the Prior Informed Consent procedure, are to be appropriately labelled and accompanied by basic health and safety information in the form of a safety data sheet.[17] This provides the means for Parties to exercise control over the international trade in hazardous chemicals involving their territories, and also provides them with extensive scientific information about hazardous chemicals to support their own decision making.

3. STOCKHOLM CONVENTION

The objective of the Stockholm Convention is to protect human health and the environment from POPs. Among other things, the Convention requires Parties to:

(a) Prohibit or eliminate the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annex A to the Convention, subject to specific exemptions;

(b) Restrict the production and use, as well as the import and export, of the intentionally produced POPs that are listed in Annexes A and B to the Convention, except for registered exemptions and acceptable purposes;

(c) Reduce or eliminate releases from unintentionally produced POPs that are listed in Annex C to the Convention;

(d) Ensure that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner. The Convention requires that such stockpiles and wastes be identified and managed to reduce or eliminate POPs releases from these sources;

(e) It also promotes the use of best available techniques (BAT) and best environmental practices (BEP) for preventing releases of POPs into the environment and requires that wastes containing POPs are transported across international boundaries taking into account relevant international rules, standards and guidelines.

The Stockholm Convention's requirements to Parties to ensure that stockpiles and wastes consisting of, containing or contaminated with POPs are managed safely and in an environmentally sound manner as well as to promote and require the use of BAT/BEP for preventing unintentional releases of POPs will reduce and support the sound management of the hazards potentially posed by POPs in the event of an emergency. The Convention also requires Parties to promote and require the use of BAT/BEP for preventing unintentional releases of POPs into the environment and requires that wastes containing POPs are transported across international boundaries taking into account relevant international rules, standards and guidelines. This reduces the risk of POPs either giving rise to or compounding the effects of an emergency.

B. TOOLS, GUIDANCE AND MECHANISMS AVAILABLE UNDER THE BRS CONVENTIONS

In addition to the substantive obligations which the conventions place on Parties, there is a wealth of support for Parties efforts in achieving the convention objectives, for example through guidance, information exchange, capacity building activities. The Secretariat, working in accordance with mandates and programmes agreed by the conferences of the Parties and through working groups of experts drawn from Parties, delivers many of these elements. These activities, although also often not specifically directed at emergency preparedness and response, can support Parties and help them develop their capacity for emergency preparedness. In addition, there are financial mechanisms in place which can provide support to developing country Parties and Parties with economies in transition in certain circumstances.

[16] http://www.pic.int/tabid/1370.
[17] http://www.pic.int/tabid/1046.

1. TECHNICAL GUIDELINES AND GUIDANCE

An extensive range of technical guidelines and other guidance documents has been prepared and adopted by the conferences of the Parties to the Basel and Stockholm conventions. These relate for example to the management of the different categories of hazardous and other wastes falling with the scope of the Basel Convention, or BAT/BEP for managing processes which may lead to unintentional emissions of chemicals falling with the scope of the Stockholm Convention.

The guidelines most relevant to the recent pandemic are those of the Basel Convention "Technical Guidelines on the Environmentally Sound Management of Biomedical and Healthcare Wastes" published in 2003.[18] Those wastes may be classified as hazardous wastes in categories Y1 and Y3 in Annex I to the Convention.[19] It may be timely for the Conference of the Parties to consider whether there is any need to update the guidelines in the light of Parties' experiences during the COVID-19 pandemic and to take account of developments over the nearly twenty years since they were drafted. In particular, it may be appropriate to consider:

(a) How to respond to surges in the volume and type of municipal and healthcare waste – contingency planning;

(b) Separation and management of contaminated or infectious waste (especially where municipal hazardous waste collection is not provided);

(c) Measurement of increases in the volumes of waste generated due to a pandemic;

(d) Downstream management and disposal;

(e) Different technologies for destruction of contaminated waste produced as a result of a pandemic;

(f) Preventative measures for workers (e.g., procedural, PPE).

In addition, as mentioned above, there is a specific factsheet on Healthcare and Medical Waste produced as part of the work of the Basel Convention expert working group on the environmentally sound management. These factsheets are intended to serve as a quick overview of the most important aspects related to the environmentally sound management of a particular waste stream, as a starting point to assist in understanding the issues.

The need for any updates to technical guidelines and guidance may also be identified by the Implementation and Compliance Committee in relation to the Basel Convention, within its general review mandate to generally improve the implementation and compliance with the Convention. The 2020–2021 work programme of the Basel Convention Implementation and Compliance Committee includes a remit to review regularly the guidance on legal matters developed by the Committee, e.g., the manual for the implementation of the Basel Convention, the guide to the control system and the guidance on illegal traffic, based on periodic feedback from users and suggestions from stakeholders and in the light of decisions adopted by the Conference of the Parties, and make recommendations to the Conference of the Parties on their updating.[20]

2. PARTNERSHIPS

(a) Household Waste Partnership

The Basel Convention Household Waste Partnership, established in 2017, is developing an overall guidance document on the environmentally sound management of household waste, compiling the key outcomes and recommendations on (1) best practices related to the environmentally sound management of household waste; (2) mechanical biological treatment, energy recovery, management of sanitary landfills and compartmentalization to deal with various waste streams; (3) assessment of current waste management systems, decision-making and efforts to ensure the environmentally sound management of household waste. It also has a mandate to collect case studies from various regions related to the topics addressed in the guidance document. [21] The lessons of the pandemic will be relevant to this work.

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[18] http://www.basel.int/tabid/8025.

[19] COVID-19 related waste may display the hazard characteristic H6.2 (Infectious substances) set out in Annex I "Substances or wastes containing viable micro-organisms or their toxins which are known or suspected to cause disease in animals or humans".

[20] Decision BC-14/15.

[21] Decision BC-13/14.

(b) Plastic Waste Partnership

The Basel Convention Plastic Waste Partnership, established in 2019, to mobilise business, government, academic and civil society resources, interests and expertise to improve and promote the environmentally sound management of plastic waste at the global, regional and national levels and to prevent and minimize its generation.[22] As described earlier, there was a significant increase in the amount of plastic waste generated during the pandemic. Again, lessons from the pandemic will be relevant.

(c) Follow up Partnership to PACE

The follow up Partnership to the Partnership for Action on Computing Equipment (PACE), aims to enhance the environmentally sound management of e-waste, addressing the development of e-waste policies and regulations, supporting Parties to the Basel and Stockholm conventions in collecting and enhancing the environmentally sound management of computing equipment and mobile phones. One of the foreseen effects of the COVID-19 pandemic will be an increase, in e-waste generation in coming years, due to the increased use of e-devices during the pandemic.

3. SHARING KNOWLEDGE

The clearing-house mechanism of the BRS conventions is a multi-stakeholder global system to facilitate the exchange of relevant information and expertise. During a crisis, there may well be demands for the use of new chemicals, for example in the pandemic the use of disinfectants, or new issues may arise about how to handle wastes streams. Information through these mechanisms may support Parities in making sound decisions about which substances to use and how they may be used effectively.

The Secretariat has developed, and is continuously enhancing, a global knowledge base made of information and tools, fed and used by all members of the clearing-house community. The priority areas defined by the Conferences of the Parties include, among other things, information about national plans and strategies: (1) environmentally sound management of chemicals and of hazardous and other wastes; (2) priority waste stream inventories, for wastes such as e-wastes, mercury wastes and POPs wastes, and related technical guidelines; (3) illegal traffic; (4) POPs listed in Annexes A, B and/or C to the Stockholm Convention; (5) chemicals listed in Annex III to the Rotterdam Convention, including information contained in decision guidance documents.[23]

The Secretariat also operates arrangements under the Rotterdam Convention that allow Parties to report human health or environmental incidents arising from the use of severely hazardous pesticide formulations, i.e., chemicals formulated for pesticidal use that produce severe health or environmental effects observable within a short period of time after single or multiple exposure, under conditions of use. The process helps Parties understand what information needs to be collected and submitted in support of a proposal listing in Annex III to the Convention, but also provides information which Parties may use in their own programmes of chemical regulation.[24]

4. DEVELOPING CAPACITY AND PREPAREDNESS

The technical assistance plan of the BRS conventions serves as one of the main instruments to support developing country Parties and Parties with economy in transition in the implementation of their obligations under the three conventions. A variety of tools and approaches are employed to support Parties in effective manner aiming to maximize short, medium and long-term impacts, including modules, toolkits and e-learning courses, online and face-to-face training activities, projects and study tours.

In response to the dumping incident in Côte d'Ivoire, the BRS Secretariat promoted a capacity building programme in African countries with port facilities. The programme aimed at coordinating the implementation of the BRS conventions to respond to emergencies caused by dumping at ports. The programme addressed the environmentally sound management of wastes under the MARPOL[25] and synergies in the implementation and enforcement of the BRS conventions and the International Health Regulations with WHO, to respond to health and environmental emergencies in a coordinated manner.

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[22] Decision BC-14/13.

[23] Decisions BC-12/21, RC-7/11, SC-7/29.

[24] http://www.pic.int/tabid/3108.

[25] International Convention for the Prevention of Pollution from Ships.

There are specific priorities for each Convention, and a number of cross cutting themes including accident prevention and preparedness for hazardous waste and chemicals emergencies.[26] This reflects in particular the remit for the Basel Convention set out in decision BC-12/11 to carry out capacity-building activities with relevant partners, such as the UNEP/OCHA Joint Environment Unit, relevant to the prevention of incidents and enhancing the preparedness of countries to deal with emergencies caused by transboundary movements of hazardous wastes and other wastes and their disposal, in line with part 3 of the interim guidelines on the implementation of decision V/32 and as part of the technical assistance plan of the BRS conventions.

In recent years, two training projects specifically aimed at emergency prevention, preparedness and planning are being implemented. The purpose is to develop online and face-to-face training materials and to support the participation in a workshop on disaster waste management and on preparedness and prevention of accidents caused by hazardous chemicals and waste. A workshop was organized in Sao Paulo in February 2017 in cooperation with the Joint Environment Unit and the Stockholm Convention Regional Centre for training and technology transfer in Brazil. The workshop was funded in part by the Emergency assistance mechanism established under the Basel Convention.[27] The training materials reflected the needs expressed by Paraguay and Senegal on reacting to hazardous waste emergencies and preparedness, following their experiences described in **Box 2** above.

A joint online training was developed by the BRS Secretariat and UNEP/OCHA Joint Environmental Unit on the role of the BRS conventions in preventing and responding to emergencies. Online training sessions were developed to inform Parties on the role of the BRS conventions in emergencies and on the Basel Convention emergency guidelines.

The Secretariat continued providing support to Parties in the African and Asian regions on emergencies prevention, national coordination and contingency planning and on how to request financial support from international mechanisms set up to respond to environmental emergencies, and by implementing a capacity building programme on emergencies prevention in South and Central America by the Stockholm Convention Regional Centre in Brazil and the Basel and Stockholm Conventions Regional Centre in Panama. This is being done in cooperation with the UNEP/OCHA Joint Environment Unit, the UNEP Regional Office for the Latin American and Caribbean region, located in Panama and other partners. For further information, see document UNEP/CHW.15/17–UNEP/FAO/RC/COP.10/15–UNEP/POPS/COP.10/13 on technical assistance.

5. BASEL AND STOCKHOLM CONVENTIONS REGIONAL CENTRES

The Basel and Stockholm Conventions have established 23 regional and sub-regional centres to provide technical assistance, capacity building and to promote the transfer of technology to Parties that are developing countries or countries with economies in transition in order to enable them to implement their obligations under these conventions.[28] The Regional Centres have been involved in providing training on emergency preparedness, and in supporting Parties in operating the provisions of Basel and Stockholm Conventions according to their mandates, and the Rotterdam Convention to the extent that synergies apply, during the COVID-19 pandemic. They will continue to have a key role in this area.

6. ENFORCEMENT AND ILLEGAL TRAFFIC

The Environmental Network for Optimizing Regulatory Compliance on Illegal Traffic (ENFORCE) was established by the Conference of the Parties to the Basel Convention at its eleventh meeting.[29]

The mission of the ENFORCE is, through a network of relevant experts, to promote Parties' compliance with the provisions of the Basel Convention pertaining to preventing and combating illegal traffic in hazardous wastes and other wastes through the better implementation and enforcement of national law. The Network aims to bring together existing resources and enhancing and improving cooperation and coordination between relevant entities with a specific mandate to deliver capacity-building activities and tools on preventing and combating illegal traffic.

[26] UNEP/CHW.13/INF/36, UNEP/FAO/RC/COP.8/INF/26, UNEP/POPS/COP.8/INF/25.

[27] UNEP/CHW.13/INF/34, UNEP/FAO/RC/COP.8/INF/24, UNEP/POPS/COP.8/INF/22.

[28] 14 are Basel Convention Regional Centres; 16 are Stockholm Convention Regional Centres; 7 of the centres serve both conventions.

[29] Decision BC-11/8.

The mission will be achieved by:

(a) Promoting dialogue between its partners to develop a vision for preventing and combating illegal traffic that is in line with the objectives and requirements of the Basel Convention;

(b) Improving understanding of the issues, the role of the various stakeholders, their challenges and needs, and how best to address them;

(c) Promoting cooperation between partners and a coordinated approach to capacity building activities, for instance through joint activities, in order to avoid duplication or gaps in the activities, to ensure a broader geographical distribution of such activities, and to prevent competition over resources;

(d) Increasing the visibility of and support for efforts aimed at preventing and combating illegal traffic.

As regards illegal traffic in waste, the current Basel Convention Implementation and Compliance Committee work programme includes undertaking a scoping exercise on the extent of illegal traffic with a view to estimating: (1) how many cases of illegal traffic there were; (2) with respect to which wastes; (3) in which regions; and (4) how they were resolved, based on information provided by Parties in their national reports or by relevant international organizations.[30] The aim is to help Parties prevent and control illegal traffic. This may provide an opportunity to consider any issues arising as a result of the COVID-19 pandemic.

7. FINANCIAL SUPPORT

Parties that are developing countries or countries with economies in transition may need financial support to develop their capacity to ensure the sound management of chemicals and waste and to fulfil their obligations under the conventions.

The Global Environment Facility (GEF) provides the financial mechanism for the Stockholm Convention, to assist Parties which are developing countries or countries with economies in transition implement the Convention, as well as a more general programme to support work on the sound management of chemicals and waste. In particular, the GEF Secretariat prepared an information document outlining the GEF's response to COVID-19 for consideration by the GEF Council in June 2020 (GEF 2020).

UNEA established the Special Programme to support institutional strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm Conventions, the Minamata Convention and Strategic Approach to Chemicals Management (SAICM). It became operational in 2015, and to date has processed three rounds of applications. It is currently supporting projects in 42 countries (UNEP 2021b).

C. BRS RESPONSE TO THE COVID-19 PANDEMIC

1. ACTIONS BY THE BRS SECRETARIAT

The BRS Secretariat has been fully committed to playing its part in this response, according to its mandate and aligned as appropriate with the initiatives within the wider United Nations context.

In its initial response, the Secretariat issued a press release on 20 March 2020 "Waste management an essential public service in the fight to beat COVID-19",[31] which urged governments to treat waste management, including of medical, household and other hazardous waste, as an urgent and essential public service in order to minimise possible secondary impacts upon health and the environment (BRS 2020). It drew attention to a number of relevant Basel Convention guidance documents:

(a) Technical guidelines on the environmentally sound management of biomedical and healthcare wastes;[32]

(b) Resources on the safe handling and final disposal of medical wastes on the website of the Basel Convention's Regional Centre for Asia and the Pacific, in Beijing;[33]

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[30] Decision BC-14/15.

[31] http://www.basel.int/tabid/8376.

[32] http://www.basel.int/tabid/8025.

[33] http://bcrc.tsinghua.edu.cn/en/col/1257152450718/index.html.

(c) Factsheet "Healthcare or Medical Waste";[34]

(d) Initial draft of the guidance document for soundly managing household waste currently in preparation.[35]

A factsheet "How the COVID-19 pandemic affects plastic waste and the Basel Convention" was published in September 2021.[36]

The Secretariat has also begun to consider a number of other issues, such as the relationships between handling medical waste and the provisions of the Stockholm Convention in POPs, and to explore the relationships with other agencies.

The Secretariat has been providing support to Parties through the Basel and Stockholm Convention regional and subregional centres for training and technology transfer, and through groups such as the ENFORCE.

2. OPERATIONAL IMPACTS ON THE CONVENTION ACTIVITIES AND THE SECRETARIAT

In addition to the challenges faced by Parties in responding to the pandemic, it is also worth noting the pandemic has had significant impact on the work of the conventions, as it has on many other organisations. The Secretariat staff have quickly adapted to working remotely in order to continue to deliver the programme of work and to fulfil their mandate as best as possible in such circumstances, although activities such as face-to-face trainings have not been possible.

(a) Use of online platforms

It has been necessary to develop online ways of working for the conventions' bodies such as the Basel Convention's Open-ended Working Group, the Rotterdam Convention's Chemical Review Committee, the Stockholm Convention's POPs Review Committee, and the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions, taking into account the rules of procedure and practical logistical issues. The impact of COVID-19 on BRS meetings has been announced and regularly updated on the BRS website.[37]

(a) The following BRS meetings, among others, were held online between 2020 and 2022:

(1) First meeting of the small intersessional working group on the strategic framework for the implementation of the Basel Convention for 2012–2021, 20–22 April 2020, Geneva (online);

(2) Orientation for new members of the Rotterdam Convention Chemical Review Committee, 7 May 2020, Rome (online);

(3) Meeting of the Bureau of the Conference of the Parties to the Rotterdam Convention, 9 June 2020, Geneva (online);

(4) Meeting of the Bureau of the Conference of the Parties to the Stockholm Convention, 10 June 2020, Geneva (online);

(5) Meeting of the Bureau of the Conference of the Parties to the Basel Convention, 25–26 June 2020, Geneva (online);

(6) Fourteenth meeting of the Basel Convention Implementation and Compliance Committee (ICC-14) (part I), 29 June–3 July 2020, Geneva (online);

(7) First meeting of the PCB small intersessional working group under the Stockholm Convention, 21 October 2020 Geneva (online);

(8) Online segment of the twelfth meeting of the Open-ended Working Group of the Basel Convention (OEWG-12), 1–3 September 2020, Geneva (online);

(9) Sixteenth meeting of the Rotterdam Convention Chemical Review Committee, 8–11 September 2020, Rome (online);

(10) Fourteenth meeting of the Basel Convention Implementation and Compliance Committee (ICC-14) (part II), 21–25 September 2020, Geneva (online);

[34] http://www.basel.int/tabid/5839.

[35] http://www.basel.int/tabid/8227.

[36] http://www.basel.int/tabid/8333.

[37] http://www.brsmeas.org/tabid/8372.

(11) Annual joint meeting of the regional centres under the Basel and Stockholm conventions, 30 September–2 October 2020, Geneva (online);

(12) Fourth meeting of the Basel Convention Expert Working Group on the review of Annexes, 5–9 October 2020, Geneva (online);

(13) Meeting of the coordination group for the Global Monitoring Plan for POPs under the Stockholm Convention, 13–23 October 2020, Geneva (online);

(14) Second meeting of the PCB small intersessional working group under the Stockholm Convention, 21 October 2020 Geneva (online);

(15) Second meeting of the small intersessional working group on the strategic framework for the implementation of the Basel Convention for 2012–2021, 22 October 2020, Geneva (online);

(16) Meeting of the small intersessional working group on technical specially engineered landfill (D5) and incineration on land (D10) and energy recovery (R1), 27–28 October 2020 and 3–4 November 2020, Geneva (online);

(17) Expert meeting on best available techniques and best environmental practices under the Stockholm Convention, 27 October–6 November 2020, Geneva (online);

(18) Eighth expert group meeting on DDT under the Stockholm Convention, 9–12 November 2020, Geneva (online);

(19) Meeting of the small intersessional working group on technical guidelines on persistent organic pollutants as wastes, 16–19 November 2020, Geneva (online);

(20) Meeting of the small intersessional working group on D5, D10 and R1 technical guidelines (part III), 24–25 November 2020, Geneva (online);

(21) Fourteenth meeting of the Basel Convention Implementation and Compliance Committee (ICC-14) (part III), 7 December 2020, Geneva (online);

(22) Meeting of the small intersessional working group on technical guidelines on mercury wastes, 8–11 December 2020, Geneva (online);

(23) Meeting of the small intersessional working group on the technical guidelines on plastic wastes, 14–18 December 2020, Geneva (online);

(24) Sixteenth meeting of the Stockholm Convention Persistent Organic Pollutants Committee, 11–16 January 2021, Geneva (online);

(25) Third meeting of the expert working group on the e-waste technical guidelines, 21–22 January 2021, Geneva (online);

(26) Meeting of the small intersessional working group on D5, D10 and R1 technical guidelines (part V), 25–26 January 2021, Geneva (online);

(27) Fifth meeting of the Environmental Network for Optimizing Regulatory Compliance on Illegal Traffic (ENFORCE), 26–27 January 2021, Geneva (online);

(28) Joint meeting of the Presidents of the Conferences of the Parties to the Basel, Rotterdam and Stockholm conventions, 26 January 2021, Geneva (online);

(29) Joint meeting of the bureaux of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions, 27–29 January 2021, Geneva (online);

(30) Fourth meeting of the Basel Convention Expert Working Group on the review of Annexes (part II), 1– February 2021, Geneva (online);

(31) Meeting of the small intersessional working group on D5, D10 and R1 technical guidelines (part V), 8–12 February 2021, Geneva (online)

(32) Meeting of the small intersessional working group on POPs wastes technical guidelines (part II), 17–18 February 2021, Geneva (online);

(33) Third meeting of the PCB small intersessional working group under the Stockholm Convention, 22 April 2021 Geneva (online);

(34) Regional preparatory meeting for the online segment of the BRS COPs for the African region, 5–6 May 2021, Geneva (online);

(35) Regional preparatory meeting for the online segment of the BRS COPs for the Eastern European region, 11–12 May 2021, Geneva (online);

(36) Fourth meeting of the Basel Convention Expert Working Group on the review of Annexes, supplementary sessions (part III), 17–21 May 2021, Geneva (online);

(37) Regional preparatory meeting for the online segment of the BRS COPs for the Latin American and the Caribbean region, 31 May–1 June 2021, Geneva (online);

(38) Regional preparatory meeting for the online segment of the BRS COPs for the Asia-Pacific region, 8–9 June 2021, Geneva (online);

(39) Second meeting of the Plastic Waste Partnership working group under the Basel Convention, 14–16 June 2021, Geneva (online);

(40) Online segment of the meetings of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions (BC COP-15, RC COP-10, SC COP-10), 26–30 July 2021, Geneva (online);

(41) Seventeenth meeting of the Rotterdam Convention Chemical Review Committee, 20–24 Sept 2021, Rome (online);

(42) Fourth meeting of the Basel Convention Expert Working Group on the review of Annexes, supplementary sessions (part IV), 11–15 Oct 2021, Geneva (online);

(43) Meeting of the global coordination group for the global monitoring plan under the Stockholm Convention, 27–29 October 2021, Geneva (online);

(44) Fourteenth meeting of the Basel Convention Implementation and Compliance Committee (part IV), 15–18 Nov 2021, Geneva (online);

(45) Annual joint meeting of the regional centres under the Basel and Stockholm Conventions, 23–24 Nov 2021, Geneva (online);

(46) Fourth meeting of the PCB small intersessional working group under the Stockholm Convention, 21 October 2020 Geneva (online);

(47) Expert meeting on best available techniques and best environmental practices under the Stockholm Convention, 9 December 2021, Geneva (online);

(48) Second meeting of the small intersessional working group on plastic waste technical guidelines, 13–17 Dec 2021, Geneva (online);

(49) Fourth meeting of the Basel Convention Expert Working Group on the review of Annexes, supplementary sessions (part V), 13 Jan 2022, Geneva (online);

(50) Second meeting of the small intersessional working group on plastic waste technical guidelines (part II), 17–19 January 2022, Geneva (online);

(51) Second meeting of the small intersessional working group on plastic waste technical guidelines (part III), 7–9 February 2022, Geneva (online).

(b) The following BRS meetings have been held or planned to be held face-to-face with the possibility to participate online:

(1) Seventeenth meeting of the Stockholm Convention Persistent Organic Pollutants Review Committee, 24–28 Jan 2022, Geneva;

(2) Joint meeting of the bureaux of the conferences of the Parties to the Basel, Rotterdam and Stockholm conventions, 1–2 February 2022, Geneva;

(3) Regional preparatory meeting for the 2022 face-to-face segment of the BRS COPs for the Asia-Pacific region, 27–29 March 2022, Bali;

(4) Face to face segment of twelfth meeting of Open-ended Working Group of the Basel Convention (OEWG-12), 4–6 April 2022, Nairobi;

(5) First meeting of the Stockholm Convention's effectiveness evaluation committee, 12–14 April 2022, Geneva.

Delegates and experts have shown incredible flexibility and cooperation in adopting new ways of working. Much has been done despite the difficulties, but even so there have been limits to what can be achieved. It is difficult to conduct negotiations in virtual meetings, particularly on complex or sensitive issues.

Experience using online platforms has also shown that there may be new possibilities, either to reduce the need for travel for some meetings which could be done online without a loss of effectiveness thereby reducing carbon footprint, or to add new channels of communication and engagement to allow more opportunities to engage with the work of the conventions, for example by streaming meetings, making greater use of webinars or other online settings to prepare for negotiations prior

to the meetings themselves, or in carefully considered and defined circumstances, potentially making greater use of virtual participation. Certain technical assistance activities, for example, might be delivered online, making wider participation more feasible, even though face-to-face training is likely to remain the main approach.

In case the meetings planned as face-to-face would require to be carried out online as a last resort, the Secretariat has prepared to provide, where relevant, an exceptional support to eligible participants to reimburse their communication costs, i.e., costs incurred to secure a reliable and good quality internet connection. In accordance with the approved UNEP/BRS policies thereon, and the present project, this allowance would be offered to eligible Parties, or members of bodies from eligible Parties who are officially registered to the online meetings and requested the allowance.

The stability and effective technical support of online platforms were essential to the smooth running of meetings held online. In addition to the internet connectivity of each participant, it was found necessary to have the stable and user-friendly online platform to ensure effective participation. Over the two years of the COVID-19 pandemic, there has been improvement in both the technical providers' side and the users' side. However, the experiences also highlighted the importance and practicality of having meetings face-to-face, in particular for negotiating complex and sensitive matters.

(b) Communication

The Secretariat has been considering the range of communication channels to make BRS material more accessible. The aim is to facilitate access and increase awareness of the existing materials among stakeholders, for example by making it as easy as possible for visitors to the website to find guidance material. This could be achieved by clearer signposting and be mindful of the needs of audiences.

While the materials prepared under the conventions are primarily intended to support Parties and therefore they are often fairly technical, there is a need for materials to be more accessible for the general public or journalists.

(c) Coordination and cooperation

It has been helpful that organizations have been proactive in seeking clarity at the outset about the intended plans and responses of the relevant international bodies concerned. This should be applied in any future crisis to reduce the risk of duplication of effort, for example in preparing guidance, or in organising technical assistance activities.

There is potentially a large range of bodies and entities which might be involved in any crisis depending on its nature. The Secretariat is committed to strengthening cooperation and coordination with other relevant bodies.

D. COOPERATION AND COORDINATION WITH OTHER INTERNATIONAL ORGANISATIONS

The BRS Secretariat works with many other United Nations agencies and organisations to deliver its mandate and to ensure a coherent and holistic approach to deliver the convention objectives and to contribute to the wider international goals, in particular the 2020 Agenda for Sustainable Development. Document UNEP/CHW.15/21–UNEP/FAO/RC/COP.10/17– UNEP/POPS/COP.10/21 on international cooperation and coordination with other organizations provides further information.

The Secretariat works closely with UNEP, OCHA and with the UNEP/OCHA Joint Environment Unit on emergency as described in sections III.D.2. and III.D.3. The Secretariat also has close links with the FAO, not least because the Secretariat of the Rotterdam Convention is hosted jointly by UNEP and FAO. FAO works on plant pest and disease outbreaks, such as desert locust and fall armyworm, where the use of pesticides plays an important role. The FAO, together with the conventions, supports countries in sustainable management of hazardous pesticides in order to protect human health and environment, as well as in dealing with the wastes such as obsolete pesticides and empty containers resulted by the control of the outbreaks.

There are other relationships which are important and could be strengthened, in particular with WHO on health emergencies and with WTO and WCO as there are growing links over the trade aspects of chemicals under emergency.

1. UNITED NATIONS GENERAL ASSEMBLY

The United Nations General Assembly has set out the key principles under which the international community provides assistance to countries: humanity, neutrality, and independence, together with respect of the sovereignty of countries and a recognition that the affected country has the primary lead role in the initiation, organization, coordination and implementation of humanitarian assistance within its territory (OCHA 2018). The work of the BRS Secretariat in providing assistance to Parties fully respects these principles.

Emergencies may often impact on the most vulnerable. The United Nations General Assembly resolution on the COVID-19 pandemic noted that it has had a disproportionately heavy impact on women, older persons, youth and children, as well as the poor, vulnerable and marginalized segments of the population.[38] Work undertaken within the BRS conventions to strengthen emergency preparedness and response can make an important contribution to achieving human rights.

The United Nations Special Rapporteur on human rights and hazardous substances and wastes presented a report to the United Nations General Assembly in October 2019 which clarifies the duty of States to prevent and minimise exposure to toxic substances, to protect against preventable diseases and disabilities (Special Rapporteur 2019). The BRS conventions play a significant role in supporting Parties in delivering that duty.

Box 6 below summarizes the resolutions adopted by the United Nations General Assembly dealing with COVID-19.

BOX 6: UNITED NATIONS GENERAL ASSEMBLY RESPONSE TO THE COVID-19 PANDEMIC

The United Nations General Assembly has adopted several resolutions on the COVID-19 to guide the international response.

Resolution 24/270, adopted on 2 April 2020, expressed great concern about the threat to human health, safety and well-being caused by the coronavirus disease pandemic, and recognised the unprecedented effects of the pandemic, including the severe disruption to societies and economies, as well as to global travel and commerce, and the devastating impact on the livelihood of people. Among other things, it called upon the United Nations system, under the leadership of the Secretary-General, to work with all relevant actors to mobilize a coordinated global response to the pandemic and its adverse social, economic and financial impact on all societies.

The General Assembly adopted two resolutions in September 2020, on a comprehensive and coordinated response to the coronavirus disease (COVID-19) pandemic (Resolution 74/306) and on United response against global health threats: combating COVID-19 (Resolution 74/307). It reaffirmed the General Assembly's commitment to international cooperation, multilateralism and solidarity at all levels, and called for intensified international cooperation and solidarity to contain, mitigate and overcome the pandemic and its consequences. It deals comprehensively with all aspect of the pandemic. Particularly relevant in this context is the reaffirmation of the General Assembly's full commitment to the 2030 Agenda for Sustainable Commitment as the blueprint for building back better after the pandemic and calls for efforts to implement the 2030 Agenda by reaching all its goals and targets to be strengthened and accelerated.

In September 2020, the United Nations published "United Nations Comprehensive Response to the crisis", based on three principles: a large-scale, coordinated, comprehensive health response; a wide-ranging effort to safeguard lives and livelihoods; and a transformative recovery process (UN 2020a).

2. UNEP

UNEP undertakes work on emergencies under three broad headings: (1) risk reduction; (2) preparedness and response; (3) recovery.[39] UNEP supports rapid environmental assessments to identify the risks and impacts of large scale, technological, human-induced or sudden onset disasters, independent and impartial sampling and analysis of air, water, soil, hazardous and toxic substances to provide immediate expert recommendations for appropriate follow-up action. It offers rapid mobilization and deployment of technical experts within 48 hours of an emergency to carry out detailed assessments over a period of two to three

[38] Resolution 74/306, September 2020.

[39] https://www.unep.org/explore-topics/disasters-conflicts.

weeks. The experts work with national counterparts to provide rapid and practical recommendations on specific issues, including chemical accidents, dam breaches, waste management, damage to infrastructure and geohazards. Outcomes of these technical expert missions often serve as the foundation or input to an overall humanitarian response or early recovery strategy. UNEP works closely with OCHA through a Joint Environment Unit as described in section III.D.3.

UNEP also has a mandate, set out by the third session of the United Nations Environment Assembly, to assist States affected by armed conflict or terrorism, to undertake field visits to affected areas at a State's request, to dispatch urgent assistance, and to undertake field based and post-crisis environmental assessments and recovery, with a view to assisting affected States in controlling pollution resulting from such conflicts.[40] The Executive Director's report to the fourth session of the Assembly indicated that UNEP has been in countries such as Iraq, directly affected by conflict, and others such as Turkey, Jordan and Lebanon, that are affected by conflict-related displacement.

The Crisis Management Branch leads this work within UNEP. The Branch conducts field-based assessments works to reduce the risk of disaster, and promotes environmental cooperation for peacebuilding, among other activities. **Box 7** below describes relevant initiatives of UNEP.

BOX 7: UNEP INITIATIVES ON ENVIRONMENTAL EMERGENCIES

Chemical Accident Prevention - The Flexible Framework Initiative

"The Flexible Framework Initiative for Addressing Chemical Accident Prevention and Preparedness" helps countries, particularly those with rapidly industrializing economies, prepare for and prevent chemical accidents. The primary aim is to assist countries with reviewing their chemical accidents programme to identify opportunities to prevent or reduce the likelihood of chemical accidents and to improve preparedness so as to minimise any impacts on people, communities, the environment, and property should an accident occur. This includes large and small countries, whether they have significant risks of chemical accidents (e.g., a country with large chemical facilities) or have more limited risks (e.g., a country with no chemical manufacturing or processing industry but which has several warehouses of pesticides, water treatment facilities using chlorine, or a port that receives bulk chemicals in transit to other countries). [41, 42]

Training and Knowledge Platform

The UNEP/OCHA Joint Environment Unit, together with its partners, had developed training material on a variety of environmental emergency preparedness and response topics.[43] An environmental peacebuilding knowledge platform has been built and is being used by visitors from 185 countries.[44] It consistently receives 5,000 to 8,000 page views per month, and now contains over 4,300 documents and resources. The knowledge platform supports a virtual Community of Practice with over 3,000 people from 90 countries that have signed up to a regular Environmental Peacebuilding Update.

The Environmental Emergencies Centre

The Environmental Emergencies Centre (EEC) is a joint initiative of UNEP and OCHA. It is an online one-stop-shop of information relevant to the preparedness, prevention and response stages of an environmental emergency. EEC strengthens the preparedness capacities of responders and humanitarians, allowing users to build on their own mechanisms and to draw on the resources and services of EEC partners.[45]

The Programme on Awareness and Preparedness for Emergencies on a Local Level

The Awareness and Preparedness for Emergencies on a Local Level (APELL) Programme has been working since 1986 to reduce industrial risks, raise awareness, and build capacity to respond to emergencies. The programme engages communities in natural and hazard-prone areas, helping them prepare for and mitigate the environmental risks of industrial accidents. The APELL methodology is contained in a structured 5 phases and 10-elements process and is aimed at creating a cohesive and resilient community to technological or natural hazards through raising awareness and agreement on roles and responsibilities of all community stakeholders to develop measures for preparedness and emergency response.[46]

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[40] Resolution UNEP/EA.3/Res.1.

[41] https://www.eecentre.org/resources/unep-flexible-framework-developing-a-chemical-accidents-prevention-and-preparedness-programme/.

[42] https://www.eecentre.org/wp-content/uploads/2009/01/UN_Flexible_Framework_WEB_FINAL.pdf.

[43] https://www.unep.org/explore-topics/disasters-conflicts/why-do-disasters-and-conflicts-matter.

[44] https://www.unep.org/explore-topics/disasters-conflicts/why-do-disasters-and-conflicts-matter/knowledge-platforms.

[45] https://www.eecentre.org.

[46] https://www.unep.org/explore-topics/disasters-conflicts/what-we-do/preparedness-and-response/awareness-and-preparedness.

UNEP has recognised the environmental dimension to the challenge to the COVID-19 pandemic, in particular waste management as an important consideration. UNEP established a task force to examine four areas: (1) medical and humanitarian emergency phase; (2) transformational change for nature and people; (3) investing to build back better; (4) modernizing global environmental governance.

UNEP published a response to COVID-19 prepared by the Task Force "Working with the Environment to Protect People" in May 2020 together with nine factsheets on aspects including waste management (UNEP 2020). The BRS Secretariat contributed to the preparation of the factsheets. UNEP also worked in collaboration with governments, WHO, United Nations Development Programme (UNDP), Global Environment Facility (GEF) and non-governmental organizations to mitigate the adverse impacts on global environment from the increase of waste produced in response to the crisis, through controlling releases of harmful chemicals in the atmosphere, land and water. UNEP's COVID-19 response page sets a number of ongoing initiatives.[47]

The nine factsheets gave practical advice on waste management. which reflect the principles of environmentally sound management reflected in the Basel Convention. **Box 8** below summarises the key message of each factsheet. The factsheets have been translated and made available in several languages beyond the six UN languages.

UNEP/International Environmental Technology Centre (IETC), together with the Institute of Global Environmental Strategies (IGES) published "Waste Management during the COVID-19 Pandemic – From Response to Recovery" (UNEP/IGES 2020). This reviewed current practices for managing waste from healthcare facilities, households and quarantine locations accommodating people with confirmed or suspected cases of COVID-19, considered various approaches, identified best practices and technologies, and provided recommendations for policy-makers and practitioners to improve waste management, over the long term. It gave particular attention to developing countries and cities, many of which may already lack adequate waste management.

UNEP Panama office through the UNEP IETC Osaka office has extended an offer of assistance to Trinidad and Tobago in the chemicals and waste sector, as part of a national recovery due to the impact of the COVID-19 pandemic.

UNEP Law division, in cooperation with the University of Melbourne, is developing guidance on integrated waste management frameworks in times of pandemic. The objective is to support countries in their efforts to develop or revise national legislation and institutional structures in integrated waste management, so that they are better prepared to minimize environmental risks in the event of a future pandemic. An online survey was conducted to collect national information about types and volumes of COVID-19 waste and its handling, relevant legislation prior to the pandemic, and new or proposed measures in response to the pandemic.

[47] https://wedocs.unep.org/bitstream/handle/20.500.11822/32218/UNEP_COVID.pdf?sequence=1&isAllowed=y.

BOX 8: FACTSHEETS ISSUED BY UNEP[48]

1. **Introduction to COVID-19 waste management:**
   The UNEP COVID-19 Waste Management Factsheets outline UNEP advice to mitigate the adverse impacts of the pandemic on global environment: from how to safely manage the increase of waste produced in response to the crisis, to how to control releases of harmful chemicals in the atmosphere, land and water.

2. **National medical waste capacity assessment:**
   Environmentally sound management of medical waste is one of the key challenges during normal times in many countries. During emergencies such as the COVID-19 pandemic, these challenges are magnified because the amount of waste produced increases. This factsheet will help countries in assessing the quantity of infected waste that is potentially produced, and the available technologies that they could use to treat the waste.

3. **How to choose your waste management technology to treat COVID-19 waste:**
   As countries develop an inventory of the existing national waste management facilities, they select environmentally sound options for waste treatment using the UNEP Sustainability Assessment of Technologies (SAT) guidance on Best Available Technology and Best Environmental Practices (BAT/BEP).

4. **Policy and legislation linked to COVID-19 pandemics:**
   Guidance on policy and legislation will help countries to establish a stable legal and institutional basis to better respond to future waste emergencies such as the COVID-19, and to clarify measures to be taken.

5. **Links to circularity – Non-healthcare waste:**
   COVID-19 will lead to a greater production and consumption of household and personal health related products, that could be single-use and contain valuable resources like plastics, textiles, metals, electronics. COVID-19 waste, and any other waste, must be collected and treated adequately to avoid littering or uncontrolled incineration causing impacts to human health, ecosystem quality, biodiversity, including impacts on soil, rivers, coastal lines and in the marine system.

6. **Linkages of Air quality and COVID-19:**
   Air quality is negatively impacted by environmentally unsound practices, such as open burning or other suboptimal waste management methods. Adhering to environmentally sound practices for waste management, especially COVID-19 waste, and maintaining high environmental standards and enforcement is essential.

7. **Household medical waste management strategies:**
   As COVID-19 spreads to the developing world, with limited access to medical support, increased numbers of cases will have to self-medicate at home. Proper management of household medical waste will therefore become key to stop further spread of the COVID-19 virus and avoid putting others, including waste workers, at risk.

8. **Disaster and conflict:**
   Disaster and conflict affected countries and vulnerable humanitarian operations with limited capacity, poor infrastructure and resources are likely to face enormous problems in the event of COVID-19 spread and the need for safe, efficient and appropriate solutions for management of solid and hazardous contaminated wastes. This factsheet outlines how to manage this type of waste in the context of camps and camp-like settings as well as informal settlements.

9. **COVID-19, wastewater, and sanitation:**
   Raw sewage, and partially treated wastewater, is a vehicle for spreading diseases and a potential means for COVID-19 to spread faster, for example in areas where sanitation is poor, or where the communities are exposed to open-sewers and black water. COVID-19 brings additional challenges with the increased use of medical products, masks and gloves made of plastics, textiles, and other single-use products that are discarded in the open environment or in existing drainage system, contributing to the already alarming amounts of plastics, microplastics, and microfibers pollution in wastewater.

[48] https://www.unep.org/resources/factsheet/covid-19-waste-management-factsheets.

3. UNEP/OCHA JOINT ENVIRONMENT UNIT

UNEP and OCHA established the Joint Environment Unit in 1994 to couple UNEP's technical expertise with OCHA's humanitarian coordination mandate. It coordinates international efforts and mobilizes partners to support countries that have requested assistance. Its teams conduct rapid assessments, test for the presence of hazardous materials, analyse the possible impacts on communities, and help national authorities to develop strategies to respond. Since it was established over 25 years ago it has assisted almost 100 countries and mobilised over 200 missions. Through OCHA's Duty System, the Joint Environmental Unit is available 24/7 to mobilize assistance.

The nature and scope of UNEP work in environmental emergency response has evolved over time. When first established, the mandate for the Joint Unit emphasized the response to chemical emergencies, primarily industrial accidents and oil spills. After several years, the Unit's area of responsibility was expanded to address acute environmental impacts arising from all types of disasters and crises.

"The Environmental Emergency Guidelines" (second edition) were published by the Joint Environmental Unit in 2017 and set out voluntary guidelines for the provision and receipt of international humanitarian assistance for environmental emergencies through UNEP and OCHA (UNEP/OCHA JEU 2017). They are intended as a reference guide for countries, organizations and other stakeholders wishing to improve their readiness to call for international emergency assistance. They are not an authoritative instruction, but rather detailed recommendations based on an accumulation of institutional memory and experience related to international environmental emergency response.

UNEP and OCHA therefore have a key role as a first point of response for a wide range of emergencies. While the BRS Secretariat always seeks to respond swiftly and comprehensively to any request for support in the case of an emergency, within its mandate and area of expertise, it does not seek to duplicate the structures and capabilities found in UNEP. Its role is therefore to work with and in support of UNEP and OCHA, and in particular the Joint Environmental Unit, to provide an urgent, coordinated response to Parties facing a specific emergency. The Secretariat has a formal letter of agreement with UNEP and OCHA to set out the responsibilities of each partner and the arrangements to respond to requests for assistance and to organise a swift and effective response.

In the immediate aftermath of the declaration of COVID-19 as a pandemic, UNEP/OCHA Joint Environment Unit launched a dedicated COVID-19 page on the Environmental Emergencies Centre to compile technical guidance on how to address the environmental dimensions of COVID-19 response for environmental and humanitarian actors alike.[49] Operational guidance on "Humanitarian Response to COVID-19 and the Environment" was also published.[50]

UNEP Crisis Management Branch and the Joint Environmental Unit also provided governments with practical COVID-19 waste management advice in countries such as India, Afghanistan, Haiti, South Africa, South Sudan and Sudan. A series of webinars was launched across UNEP to socialize guidance and raise awareness on COVID-19 waste management.

(a) Agreement with the UNEP/OCHA Joint Environment Unit

The BRS Secretariat has had a formal agreement with the Joint Environmental Unit since 2006, "with a view to clarifying areas of potential mutual assistance and possible actions related to the notification and reporting, mobilising and response to international incidents involving the transboundary movement of hazardous wastes and their disposal".

In October 2016, the Secretariat and the Joint Environmental Unit signed a revised comprehensive letter of agreement (LOA) extending the scope of cooperation between the two organisations, and taking account of experiences from the incidents in Côte d'Ivoire, Senegal and Paraguay described earlier, and this is the current agreement.[51] It covered cooperation to develop the capacity of Parties to prevent and respond to emergencies under the Conventions, as part of the technical assistance plan of the Secretariat and according to the Interim Guidelines on emergency assistance under the Basel Convention described above. The agreement expired in September 2021 and is expected to be renewed after reviewing how it has operated.

[49] https://www.eecentre.org/covid-19/.

[50] https://www.eecentre.org/wp-content/uploads/2020/04/Humanitarian-Response-to-COVID-19-and-the-Environment.pdf.

[51] http://www.basel.int/tabid/3901.

The primary purpose of the LOA was to provide a framework for cooperation and understanding, and to facilitate collaboration with regard to the response to incidents involving the transboundary movement of hazardous wastes. It therefore provided for regular and ad hoc meetings and exchanges of information as well as through concrete cooperation in cases of incidents. It also provided for potential areas for cooperation and information exchange particularly in the area of technical assistance with a view to supporting Parties in their efforts to prevent accidents and to respond to emergencies in the case of accidents. It further provided for regular bilateral meetings on issues of common interest, to review progress and to respond to development within the Secretariat or the Joint Environmental Unit and to lessons learnt.

The Secretariat will continue to work closely with the Joint Environmental Unit. For example, there is already joint online training available, the Secretariat participated and contributed materials on the conventions and their roles in preventing and responding to emergencies. The Secretariat has organized webinars to promote this online training and to disseminate the guidelines on emergencies under the Basel Convention, and such collaboration will continue.

4. WHO

The WHO has had the global lead on all health aspects. It has published extensive information about the pandemic, including regular situation reports, and technical guidance to Governments and others about prevention and treatment of COVID-19.[52] WHO has provided extensive resources on all aspect of the pandemic, and has also established the COVAX platform, which is working for equitable access to COVID-19 vaccines, with the aim of ensuring that people in all corners of the world will get access to vaccines.

The BRS Secretariat cooperates with WHO on a number of programmatic areas, for example in the global monitoring plan and on the evaluation of the continued need for DDT for disease vector control as listed in Annex B to the Stockholm Convention.

One of the lessons of the COVID-19 pandemic is the need to ensure close coordination at the outset of any crisis to make sure that the international response is as effective as possible, drawing on all resources and avoiding duplication. Given the health dimension is important in many emergencies, strengthening links with the WHO is a priority in this area, particularly on issues such as medical waste.

[52] https://www.who.int/emergencies/diseases/novel-coronavirus-2019.

4. BUILDING BACK BETTER

There is widespread recognition of the need to "build back better" – for example the United Nations General Assembly resolution 74/306 adopted in September 2020 reaffirmed the Assembly's commitment to the 2030 Agenda for Sustainable Development as a basis for building back better after the pandemic.

The OECD report "Building back better: A sustainable, resilient recovery after COVID-19" identified a number of issues including the point that a more resilient economy will require a shift to sustainable practices, and that returning to "business as usual" will not deliver a sustained long-term economic recovery that also improves well-being and reduces inequality (OECD 2020).

The sound management of chemicals and waste is a key part of the 2030 Agenda for Sustainable Development, relevant to many of the goals. The BRS conventions are a central part of this, working alongside and in cooperation with other international agencies and instruments, and aware of the links with other key issues such as the need to address climate change and the decline in biodiversity. They are part of a holistic and comprehensive approach to sustainable chemical management.

The lessons of the COVID-19 pandemic have highlighted the particular relevance of the Basel Convention in relation to the environmentally sound management of waste, and of wider issues concerning chemical management. More widely, the Secretariat will be seeking to strengthen the support it can offer to Parties to address emergencies in future, whether health related or arising from other causes.

The more general lesson however is the need to implement the conventions fully and effectively, both to create resilience and the capacity to respond to environmental emergencies, and to deliver a more sustainable future.

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