COMMISSION GUIDE

UNEP

CCB MUN XVIII

United Nations Environmental Programme

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2020

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1. Presidents' Letter

Dear Delegates,

"In a few decades, the relationship between the environment, resources and conflict may seem almost as obvious as the connection we see today between human rights, democracy, and peace." – Wangari Maathai

In the first place, we want to give you a warm welcome to the latest version of the United Nations Environmental Programme at CCBMUN XVIII. Our names are Mariana Monsalve and Antonia Tascon, and we are delighted to be your presidents. We are fully aware of the discipline, passion, and responsibility required to participate in this highly academic event, and we know that a lot of preparation will be required. We are willing to guide you throughout this whole process and bring you the necessary tools that may help you during this event. In return, we expect a high level of commitment from our delegates, as well as outstanding research and oral skills. You will need to use critical thinking skills that will show your capacity of finding viable solutions to current world problems.

Nowadays, the world faces several threats, the vast majority of which turn out to have a great environmental impact, thus having a severe influence on other economic, social, and political sectors. For this reason, committees such as UNEP are considered vital for the maintenance of international stability and well-being. In this instance, we decided to address two problems that currently affect multiple delegations, and which represent a great danger not only to the ecosystems, but to the health of the population and wildlife. The problems that we will be addressing are methods of radioactive waste disposal and artisanal gold mining.

We are looking forward to some lively debate during our three days of commission work, and we hope that every single one of you will represent each delegation appropriately, standing by their national policies and interests concerning the situation. We hope that you learn from this upcoming experience and also enjoy it.

Ultimately, if you need anything, have any questions, or require any kind of advice, we will gladly help you prior to or during the model. You can contact us through the commission's email (unep@ccbcali.edu.co).

Best wishes,

Mariana Monsalve
Antonia Tascón
UNEP presidents- CCBMUN XVIII

2. Commission Information

i. History

UNEP, short for United Nations Environment Programme is an organization of the United Nations (UN), in charge of guiding and organizing all environmental activities within the United Nations system. This commission promotes international cooperation on environmental issues, and plays a crucial part inside the United Nations. It guides other global organizations, and encourages the international scientific community to participate in formulating policies for many projects. It is also unique for being one of the few commissions that places the protection of the planet above any other human issues.

UNEP was established in Nairobi, Kenya, on June 5, 1972, as a result of the Stockholm Conference on the Human Environment. Since the foundation of the commission, it has encouraged economic growth compatible with the protection of the environment. UNEP has also worked closely with industries to develop environmental management strategies, and has worked with forward-looking organizations in the financial service sector since the start of 1990. Among other tasks, the commission has helped nations adopt environmentally friendly policies and practices. It promotes the sustainable use of natural resources, in order to improve the quality of life of people today without compromising future generations.

ii. Structure

UNEP has its administrative headquarters in Nairobi, Kenya, and is led by a Senior Management Team, chaired by its Executive Director. It works through their division's regional liaison and out-posted offices, and has a growing network of collaboration centres of excellence. Its structure is composed of various parts, as well as inter-agency coordinating bodies, all of which have key roles in the proper development of the commission.

The first group of the structure is the Executive Officer, composed of:

- **The Acting Executive Director (Inger Andersen):** Accountable for the Secretary-General. The Executive Director is in charge of all the activities of the UNEP's secretariat as well as its administration.

- **The Deputy Executive Director (Joyce Msuya):** Works under the direction of the Executive Director and it plays a key role in leading and managing the delivery of UNEP's mandate.
- **Other important roles:** Governance Affairs Office / Secretariat of Governing Bodies; Secretariat of the Environment Management Group, Assistant Secretary General, Chief Scientist, Evaluation Office. The next branch is the Executive
- **Executive Office branch includes:** Communication, Economy, Ecosystem, Law and Science divisions.

Executive Office and Secretariat of Governing Bodies branch:

- Africa Office
- Asia and the Pacific Office
- Europe Office
- Latin America and the Caribbean Office
- North America Office
- West Asia Office

Based on territorial locations, each individual Region Office has its own corresponding sub-office.

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3. Topic 1: *Artisanal and small-scale mining*

i. History/Context

Broadly speaking, the terms artisanal and small-scale mining refer to a process normally conducted by individual miners, groups, families, cooperatives or small enterprises, with minimal or no mechanization, limited capital investment and production. It is often found in the informal sector of the market, which sometimes tends to be illegal. In some countries, there is a distinction between the terms "artisanal mining", which indicates a purely manual production on a very small scale and the term "small-scale mining" that has some mechanization and takes place on a larger scale.

Even though there have been many efforts to define ASM (artisanal and small-scale mining), a common definition of the term has still not been found. The Organization for Economic Co-operation and Development (OECD) tried to interpret it as: *"formal or informal mining operations with predominantly simplified forms of exploration, extraction, processing and transportation"*. It's easier to find local legal or regulatory definitions, which vary from country to country depending on the macroeconomic situation, the geological framework, the mining history and the legal conditions. Nevertheless, ASM is characterized by a number of conditions:

- Using mainly physical demanding work instead of mechanization
- Limited occupational safety and health care
- Poor qualification of personnel in operations
- Inefficiency in exploitation and processing of mineral production
- Low productivity
- Low level of salaries and income
- Lack of social security
- Insufficient consideration and awareness of environmental issues
- Chronic lack of working and investment capital

(Hentschel, Hruschka, & Priester, 2003)

Image retrieved from https://www.worldbank.org/content/dam/Worldbank/Feature%20Story/extractives/small scaleminers

Most artisanal gold miners come from socially and economically marginalized communities, and they often turn to mining in order to escape extreme poverty, unemployment and landlessness. Moreover, the absence of an appropriate budget or group of resources forces these small enterprises or individual miners to rely on cheaper, thus more dangerous, methods of mineral extraction. These methods usually do not comply with environmental standards. This scenario is common in the gold mining sector, where dangerous substances, such as mercury and cyanide, are widely used.

Firstly, Mercury (Hg) is a naturally occurring element found in rocks in the earth's crust. It is a heavy, silvery-white metal which is liquid at room temperature and evaporates easily. Mercury has been used to extract gold for approximately 3,000 years. The problem with the use of mercury in mining is due to the process in which the mineral is mixed with the materials containing the gold. A mercury-gold amalgam (an alloy of mercury with another metal) is formed due to the fact that gold dissolves in mercury while other impurities do not. The amalgam of mercury and gold is then heated to make the mercury evaporate, leaving behind the gold. Therefore, a large quantity of mercury vapour is released into the environment, polluting it. Even if the individual possesses equipment used to catch this vapour, some can still get into the atmosphere. (Blacksmith Institute, 2020) (United Nations Environmental Program, 2013)

Mercury can also get into the soil and water easily if it is mismanaged, contaminating other waste materials from the mining process that may be discarded. Furthermore, the lasting exposure of people to this metal causes several health consequences including brain damage, nerve and organ damage, memory loss, etc.
(Earthworks, 2020)

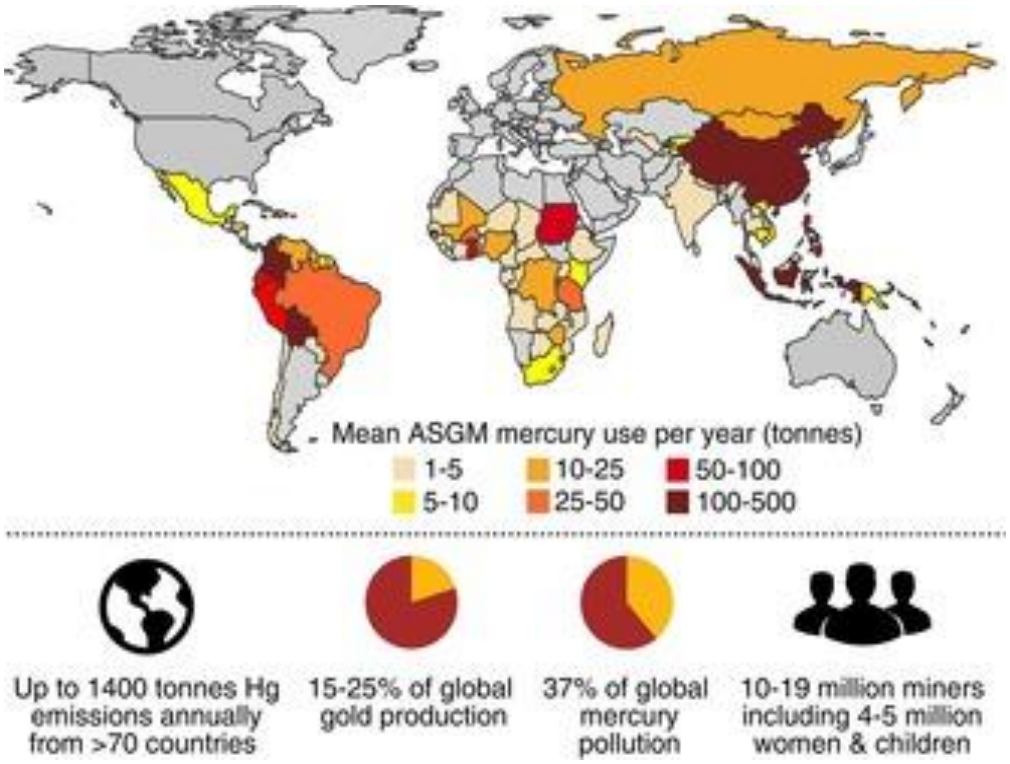
More than 80% of gold mines in the world use cyanide gold extraction, and 85% of them use sodium cyanide to extract gold. Unfortunately, cyanide is highly toxic, and it can result in substantial environmental detriment and public health risks if released into the environment. Cyanide spills have resulted in major fish kills, contaminated drinking water supplies and damaged agricultural lands. For instance, the following cases are cyanide spills that had severe adverse effects:

- **Mexico, 2014:** 500,000 gallons of cyanide spilled thanks to rains, from a retaining pond at the Proyecto Magistral mine.
- **Kyrgyzstan, Kumtor Gold Mine, 1998:** A truck carrying 2 tons of sodium cyanide crashed into the Barskoon river, causing more than 2,000 people to seek medical assistance.
- **Romania, Aural Gold, 2000:** A tailings dam broke originating a spill of 3.5 million cubic feet of cyanide-contaminated waste into the Tisza and Danube Rivers. It killed fish and poisoned water supplies as far as 250 miles downriver in Hungary and Yugoslavia.
- **United States, Zortman-Landusky Mine, Montana, 1982:** 52,000 gallons spill of cyanide solution poisoned the aquifer that supplies drinking water for the town of Zortman. (Earthworks, 2020)

ii. Current situation

Currently, this practice can be seen in approximately 80 countries worldwide and it is estimated that there are between 10 and 19 million miners working mostly in Asia, Africa and South America, usually distributed in developing countries. In addition, there are around 4.5 million women and 600,000 children involved directly in these mining operations. Nonetheless, it is crucial to highlight the importance of this activity in the worldwide market; ASM contributes 80% of global sapphire production, 20% of gold mining and 20% of diamond mining. (Blacksmith Institute, 2020)

Nowadays, mercury-dependent artisanal and small-scale gold mining is the largest source of mercury pollution on Earth according to the UN Environment Programme's 2018 Global Mercury Assessment. The report also showed that artisanal and small-scale mining (ASGM) emitted some 800 tonnes of mercury into the air in 2018, roughly 38 per cent of the global total. According to the United Nations Industrial Development Organization (UNIDO), as much as 95 percent of all mercury used in artisanal gold mining is released into the environment, and 1,200 tonnes of mercury end up in land and water. In the following image you will find the statistics for the use of mercury and its effects in several countries.



(Image retrieved from https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/chem.201704840)

The environmental threats and consequences that come with ASM vary depending on the different ecosystems and landscapes, especially with the presence or absence of connecting water sources or major forests and jungles. It's important to recognize the various regions that are mostly affected by this practice. For instance:

- *Africa*:

  ASM activities in Africa involve 8 million workers. In 23 sub-Saharan countries, this practice is a vital source of revenue for people living in rural conditions. Unfortunately, a large portion of the activity remains informal and illegal, for example, around 40-50 per cent of ASM miners work illegally in Ghana. If there is an absence of a stable government and weak legislation, this increases the probability of mining occurring in protected areas, or of the dumping of effluents into vital ecosystems. Additionally, the mining communities lack the infrastructure to deal with waste, with severe impacts on hygiene and health conditions.

  In mining sites surrounded by water sources such as rivers and lakes, the spill of mercury onto the water sediment can lead to the transformation of the mercury into methylmercury, a highly toxic and organic form of mercury that is the main source of mercury poisoning. This can easily be absorbed by aquatic and terrestrial organisms such as worms, snails and insects. The contamination then travels up the food chain, where it can finally be consumed by humans. This generates a great risk for the communities living near these areas, as well as to the fauna and flora of the region. ASM can generate other environmental problems such as deforestation, land degradation, air pollution and extreme loss of biodiversity on the continent. (Olivieri, 2019) (The South African Institute of International Affairs, 2012)

- *Asia:*

  This continent is one of the territories with higher ASM activity; countries such as China, India, Pakistan, Burma and the Philippines produce a high percentage of the global production of gold, diamonds and gemstones. The increasing number of Asian miners and small-scale enterprises is making the problem worse. In fact, the *Social and labour issues in small-scale mines* report by the International Labour Office (ILO) (1999) explains: "The three countries with the highest number of small-scale underground coal mines (China, India and Pakistan) have significantly higher numbers of fatal accidents, even when the size of the workforce is taken into account, than is the case in other sorts of mines" (1999).

  The lack of proper equipment and supervision from the government means that this kind of accident happens constantly. There is a high probability of the misuse

and mismanagement of resources, such as mercury and cyanide, which leads to serious consequences, as mentioned above. Common impacts of the limited awareness of the miners concerning environmental protection methods include: fragmentation of habitats; loss of lands mainly used for agriculture; erosion and scarred landscapes; and sedimentation of freshwater bodies amongst others. The high levels of unsupervised ASM increases the threats to the region's ecosystems.

- *Latin America:*

Artisanal and small-scale mining (ASM) supports thousands of workers in Latin America. Regions, such as the Madre de Dios in Peru, have experienced widespread devastation of primary tropical forests, with illegal alluvial gold mining serving as the main cause of deforestation in the region. Moreover, in 2018, it was estimated that approximately 185 tonnes of mercury were released into the Peruvian Amazon. ASGM (Artisanal and small-scale gold mining) is also a leading cause of deforestation in highly biodiverse regions of Colombia, where most mining is informal or illegal. Brazil has the largest ASGM mining area in the world in the Tapajos River basin, which is a tributary to the Amazon. The situation is so severe that ASM contributes to about 10% of the Amazon deforestation, according to the Amazon Aid Foundation. Although less of the mining in Brazil is illegal, conflict with indigenous community lands is increasing. (Harlow, Hurley, Fox, Vargas-Guerra, & Gibson, 2019)

ASM is less well-documented, and seems to be less pervasive in Central American countries, but it still occurs in areas of high biodiversity. The biggest threats these countries currently face include severe water quality detriment due to mining with mercury, sedimentation, and acid mine drainage. Massive amounts of sediment are released into waterways from alluvial mining, causing downstream sedimentation, increases in turbidity, and changes in aquatic biota. Sediment plumes can impact rivers for many miles downstream and may also affect estuaries and coral reefs.

In addition, the acid mine drainage is typically associated with hard rock mining, where sulphide-bearing rocks are exposed to oxygen and produce sulphuric acid. Heavy metals can also be released when cyanide is used to process gold-bearing ore, since it also effectively leaches other metals. Studies along the Puyango-Tumbes river basin in Ecuador and northern Peru have documented extensive cyanide, mercury, and heavy metal contamination with associated impacts on biodiversity. Thanks to the widespread use of mercury, this region also developed a risk of altering the food chain, putting in danger thousands of human and animal lives that inhabit these high mining areas.

Despite these problems, ASM is crucial for several communities around the world, and it is important to understand that, for many citizens, small-scale mining is their only opportunity for employment, being one of the few ways in which they can reach social and economic development. This activity can have other advantages, for example, it is commonly used by local enterprises, which helps to develop the area, and it is carried out by the residents, which means they will be able to reach their workplace easily. It can also be carried out in conjunction with other types of labour such as farming; mining normally occurs in the dry season and farming in the rainy season, giving the individuals more flexibility in their jobs. In countries like Guinea ASM represents 20 percent of their national GDP. Small-scale mining has its pros and if it is well managed, it can bring various benefits to the delegations. But it must have some sort of effective controls.

In addition to the problems caused by ASM, in some countries a connection has been found between ASM and criminal activity, where organized crime and armed groups use this practice to fund their operations. This situation worsens the already poor and unprotected communities due to an absence of regulatory frameworks and a lack of enforcement capacity.

The international community has acknowledged the great danger that unsupervised ASM represents, and on several occasions has created and applied various strategies to counter the negative effects. For example, in August 2002 the United Nations Development Programme (UNDP) and UNIDO (United Nations Industrial Development Organization) established the Global Mercury Project (GMP). Six countries (Brazil, Lao PDR, Indonesia, Sudan, Tanzania and Zimbabwe) participated in a pilot project that aimed to introduce cleaner technologies for artisanal and small-scale mining. Later, countries such as Venezuela, Ecuador, Mozambique and Guinea, received some assistance. Finally, Guyana and the Philippines joined.

Lastly, UNEP also developed The Minamata Convention on Mercury at the fifth session of the Intergovernmental Negotiating Committee on mercury in Geneva in 2013, which came into force in August 2017. The text refers specifically to artisanal and small-scale gold mining (ASGM), which uses mercury amalgamation to extract gold from ore. It encourages the delegations with high use of mercury in ASM activities, to design a national plan with steps to facilitate the formalization or regulation of the ASGM, strategies for promoting the reduction of emissions, releases and exposure to mercury, including alternatives to this metal, and guidelines to guarantee the safeguarding of public health. The convention has been signed by 128 countries and ratified by 122.

Nonetheless, as has been previously stated, these agreements have approached only one type of ASM, therefore other methods and practices are not covered. Regions like the Amazon forest that are being highly affected, do not belong to only one nation. International cooperation needs to occur with regard to the decision making about environmental protection. Treaties must tackle the majority of consequences of the practice of ASM. Repercussions such as deforestation, air pollution, alteration of the

food chain and land degradation have to be addressed in the policies as well. The commission should pursue a complete accord or plan.

It is important every single nation has a clear objective towards the reduction of the misuse of ASM practices and looks for alternative methods for the extraction of minerals such as: shaking tables, spiral concentrators, vortex concentrators, etc. It is the responsibility of governments to establish clear legal frameworks and regulatory mechanisms to facilitate the organization of ASM, whilst protecting both the environment and people's job opportunities.

For countries which buy precious metals and gemstones, it is essential that they ensure the sources do not have a detrimental effect on the environment and working conditions. They need to check the origin and methods used to extract these materials - their provenance.

iii. Key points of the debate

- Environmental consequences of the misuse of substances such as cyanide and mercury in ASM, and their repercussions on human health
- Importance of ASM as a source of revenue in developing countries
- Difficulty for developing nations with a high presence of informal and unregulated ASM to generate and enforce a stable regulatory framework
- Effects of ASM on other economic activities such as agriculture and animal husbandry
- Lack of knowledge and awareness of local communities and miners regarding effects of ASM on the environment
- Alternatives to the use of toxic substances like cyanide and mercury in ASM
- Government support to help ASM miners work legitimately and in ways that protect their health and the environment
- Ensuring provenance of mined precious metals and gemstones

iv. Participating organisms

- UNEP (United Nations Environmental Programme)
- UNDP (United Nations Development Programme)
- UNIDO (United Nations Industrial Development Organization)
- ILO (International Labour Organization)
- World Gold Council
- GMP (Global Mercury Project)

v. Guiding questions

1. Does your country have a significant level of ASM practices? If so, what kind of methods of extraction are widely used in your nation? If not, what sort of mining activities take place in your nation, if any?
2. Has your country had any type of mining accidents due to the type of method used for extraction like mercury or cyanide? If so, how was the problem dealt with?
3. Does your nation have regulatory legislation for ASM or other mining practices?
4. Is your delegation part of the international projects and conventions regarding ASM? Which ones?
5. Has your country applied or created any environmental regulations or legislation to help prevent further consequences of ASM or different mining activities? If not, what kind of policies does your country have to protect the environment in general?
6. Has your nation created any protected areas or ecosystems that might be in danger from informal ASM or different mining procedures? Is your delegation doing anything to protect these places?

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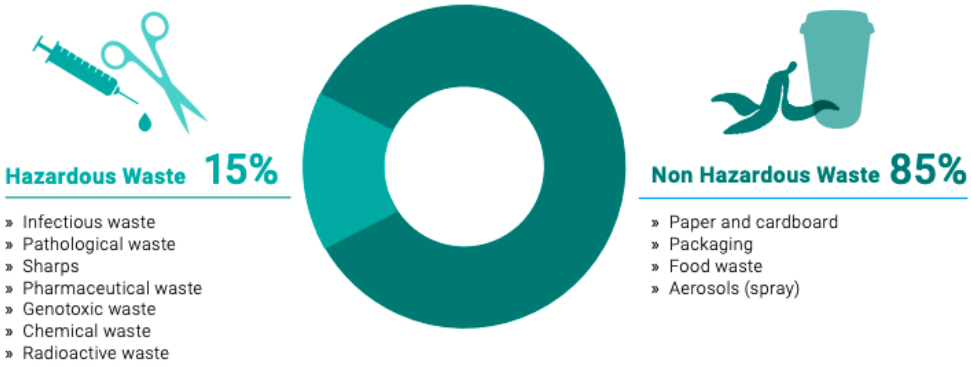
4. Topic 2: *Environmental repercussions of biomedical waste produced during the COVID-19 pandemic*

i. History/Context

Biomedical, healthcare or medical waste refers to any solid or liquid waste that can present a threat of infection to humans. There are many different types of biomedical wastes, the following are the ones recognized by WHO:

- Infectious waste: Waste that is contaminated with blood and/or other fluids; cultures, and stocks of infectious agents from laboratories, or waste produced by patients with infections, or possible infections.
- Pathological waste: Organs, fluid or human tissues, body parts, and contaminated animal carcasses.
- Sharp waste: Needles, disposable, syringes, scalpels, and blades, among others.
- Chemical waste: Some examples of this might include, solvents and reagents used in laboratory preparations, sterilizers, disinfectants, and heavy metals found in medical devices.
- Cytotoxic waste: Waste that contains substances with genotoxic properties, highly hazardous substances that are, mutagenic[1], teratogenic[2], or carcinogenic[3].
- Radioactive waste: Products contaminated by radionuclides, like radioactive diagnostic material or radio-therapeutic materials
- Non-hazardous or general waste: waste that does not pose any particular biological, radioactive, chemical, or physical hazard.



[1] Having the ability to cause a permanent change in an organism's genes (Cambridge Dictionary, 2020)

[2] Substances that may produce physical or functional defects in the human embryo or fetus after the pregnant woman is exposed to the substance (The Embryo Project Encyclopedia, 2014)

[3] Substances and exposures that can lead to cancer (American Cancer Society, 2019)

Around 85% of the waste that is produced by health-care providers is usually called "non-hazardous" or "general health-care water" This comes mostly from the administrative, housekeeping and kitchen functions of the facilities, and it can also include waste generated during construction or maintenance of the health care building. The remaining 15% of the health-care waste is referred to as "Hazardous".

Most of the biomedical waste is produced in: hospitals and other health facilities, laboratories and research centres, nursing homes for the elderly, blood banks and collection services, animal research and testing, and mortuary and autopsy centres.

Facility	Total Healthcare Waste Generation Rate	Infectious Healthcare Waste Generation Rate
Hospital	2 kg/bed-day	0.5kg/bed-day
Clinic	0.02 kg/patient-day	0.007 kg/patient-day
Maternity Center	5 kg/patient-day	3 kg/patient-day
Clinical Laboratory	0.06 kg/test-day	0.02 kg/test-day
Basic Health Unit	0.04 kg/patient-day	0.01 kg/patient-day

Average waste generation rates by type of facility
Source UNEP-IETC (2012)

This table more clearly states the waste generated by type of medical facilities, showing that the highest generation of healthcare waste happens in maternity centres and hospitals. According to data provided by WHO, high-income countries generate an average of 0.5 kg of hazardous waste per hospital bed per day, while low-income countries generate around 0.2 kg.

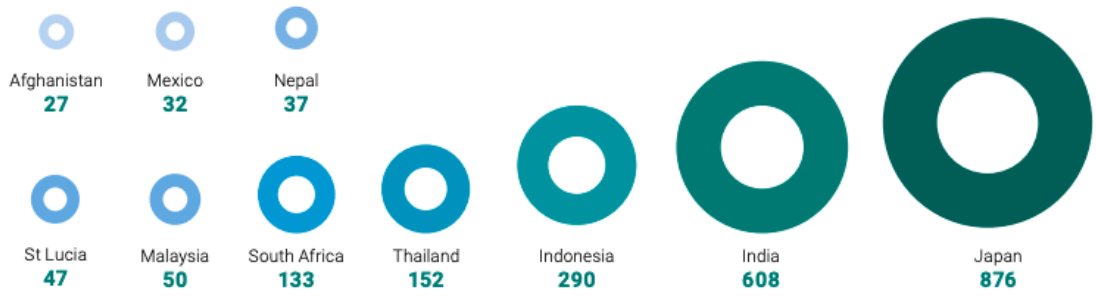
In addition to having several health repercussions, biomedical waste has a huge impact on the environment. There can be significant damage due to inadequate storage, transportation, treatment or disposal, and may eventually contaminate surface and groundwater supplies. This is harmful to whole ecosystems, whether it ends up in the ground, in water sources or in the air. Additionally, if these wastes are in any way toxic, some elements in it, such as mercury and lead, will stay in the environment for many years and will accumulate over time. Plants and animals will then absorb these toxic substances.

One of the main dangers of hazardous medical waste in the environment is water pollution. The chemicals that are poured into waterways, can make streams, rivers, lakes and aquifers unsafe to use for agricultural purposes and drinking. As a result of this, animals and plants sicken and die when drinking from these waters, and human health in certain areas might be affected. In the long term, animals may start showing signs of mutation and populations of insects such as bees, which are key for the preservation of fertility and plant life, may die faster than they can repopulate. Chemicals in hazardous waste can also destroy the ozone layer, contributing to global warming.

On-site treatment of this type of waste is limited to large, well-equipped hospitals and facilities, as the equipment is extremely expensive to buy and maintain. Off-site medical waste treatment is more cost-effective for small and mid-sized medical practices and facilities. Some companies specialize in healthcare waste collection and disposal, and have special equipment and training necessary for handling and processing the waste.

ii. Current situation

This year, due to the COVID-19 Pandemic, there has been an enormous increase in the production of medical and hazardous waste. During the peak of the emergency, Wuhan, the city where the virus started, produced 240 tons of medical waste per day, which is six times the normal level, as indicated by the country's Environment Ministry. Manila in the Philippines delivered an extra 280 tons every day of clinical waste, while Jakarta produced 212 tons, according to the Asian Development Bank. Shardul Agrawala, head of the Environment and Economics Integration Division at the Organization for Economic Cooperation and Development said, “A significant increase in medical waste generation is probably happening in different parts of the world as we encounter the peak of the crisis, as we’ve seen in emerging data from Wuhan and other cities in Asia.”



Amount of healthcare waste generation (Tonnes per day) In selected cities
Source: UN, IGES (2020)

Many countries, specially developing ones, were already struggling with poor medical waste management, due to technical, operational and or/financial constraints, and the outbreaks have only exposed the poor healthcare infrastructure and loopholes in the waste management process. These countries are the most vulnerable to the pandemic, and present the biggest risk when it comes to the inadequate management of medical waste. Due to the huge amount of medical waste that has been produced, this healthcare waste is often not separated into non-hazardous and hazardous waste. This is causing an expansion in the amount of toxic waste produced and discarded into the environment with no previous hazardous waste management.

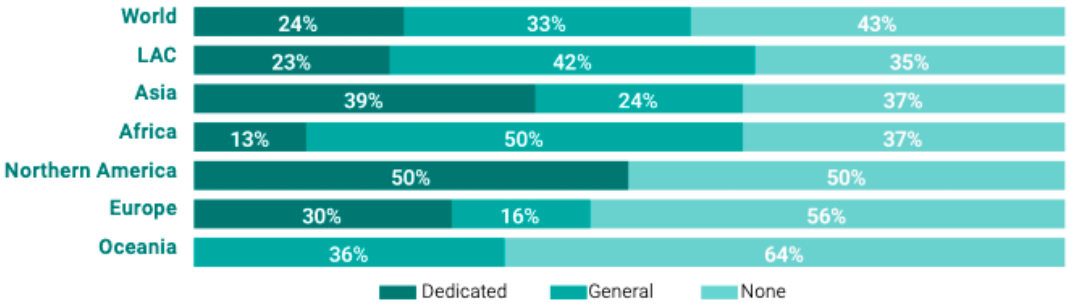
With the volume of medical waste increasing by up to 40% around the world, the need for hazardous waste production has also grown massively. Since developing countries often do not have the capacity to treat and dispose of this type of waste, these countries are being faced with a waste disposal problem that is increasing exponentially.

The biggest change that has come with the pandemic is the massive surge in used personal protection equipment, like masks; this is not only from well-regulated waste streams from medical facilities, but also from ordinary households around the world. A

significant amount of this equipment is not even properly collected, and it is making its way into unmanaged dumpsites and being burned openly.

The outcome is that in numerous nations, clinical waste like utilized masks are winding up in landfills as blended waste, or just being disposed of to end up in the ocean or to wash up on seashores. Recently, during its plastic pollution research, it was discovered that there is a growing number of masks on the Soko Islands, a small cluster off the coast of Hong Kong. Conservationists are warning that the coronavirus pandemic is sparking a surge in ocean pollution, due to the overwhelming amount of medical waste that is being produced daily and is later found in the ocean, threatening marine life. An enormous quantity of masks and gloves have been found in oceans all around the world.

What's most concerning is that there are only 168 national laws and regulations that address waste management, out of which only 57 relate to health care waste management in particular. We can see that just over half of the countries in the world have any form of legislation that generally address biomedical waste management, and only about a quarter have dedicated laws. The remaining uncovered portion comprises over a billion people. Even if the legislation exists, it does not necessarily mean that it is sufficient or enforced. Some countries with only general laws may list medical waste as part of hazardous waste, in a way this is correct, but the management of hazardous wastes and medical wastes are not always the same. Additionally, having national legislation does not assure nationwide coverage. The compliance can be limited to urban areas only, thanks to the lack of infrastructure in rural areas.



Percentage of countries per region with adopted legislation on Healthcare Waste Management
Source: UN, IGES (2020)

The lack of awareness and knowledge of this topic has increased, meaning that the disposal and management of this waste is not improving. Lack of resources is forcing some countries to opt for the incorrect disposal of medical and hazardous waste. Now, because of the COVID-19 pandemic, countries are not only finding themselves unable to afford the cost of the disposal of the waste produced daily, but are also finding themselves with more medical and hazardous wastes than ever. Since it has become

easier to just dispose of this with no previous treatment, the environment is now facing a new pollution crisis that is threatening fauna all around the world.

On a more positive note, more developed countries are starting to implement new programmes and regulations to prevent the negative environmental effects of medical waste. Not only are they ensuring the recycling, composting, and energy recovery of this waste, but they have also started targeting the source of waste generation, to further reduce its amount and toxicity.

In Europe, quantitative waste prevention has been implemented. The aim of this programme is to: decrease the quantity of toxic materials used in products; increase the efficiency with which products are used; limit unnecessary consumption; and design and consume products that generate less waste. All these actions can help reduce human and environmental exposure to hazardous materials.

iii. Key points of the debate

- The environmental consequences of the inadequate management of medical waste
- The lack of infrastructure and resources to properly manage health care wastes
- The lack of legislation and regulations that directly address management and disposal of biomedical wastes
- Increase medical waste due to the COVID-19 pandemic
- Increase in pollution due to the amount of medical waste that is produced daily
- Lack of resources in developing countries as an impediment to proper disposal of biomedical waste
- Solution and ideas to ensure adequate disposal of hazardous and medical waste

iv. Participating organisms

- UNEP (United Nations Environmental Programme)
- UNDP (United Nations Development Programme)
- ECOSOC (Economic and Social Council)
- WHO (World Health Organization)
- IGES (Institute for Global Environmental Strategies)

v. Guiding questions

1. How is biomedical waste disposed of and treated in your country?
2. Does your delegation have any regulations regarding the disposal of medical waste? If so, what are they?
3. How can the production of biomedical waste be reduced in your country and around the world?
4. How has COVID-19 affected the production and disposal of medical waste in your country?
5. How can your delegation help others to properly dispose of their medical waste? If your delegation is unable to do so, how can your delegation improve its disposal method?
6. What methods, programs, or measures can be implemented to solve the current problem that the production and inadequate management/disposal of biomedical waste has produced?

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