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Promotion and protection of human rights: human rights questions, including alternative approaches for improving the effective enjoyment of human rights and fundamental freedoms

Implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes

Note by the Secretary-General**

The Secretary-General has the honour to transmit to the General Assembly the report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, Baskut Tuncak, on the twenty-fifth anniversary of the creation of the mandate. In the report, submitted pursuant to Human Rights Council resolution [36/15](#), the Special Rapporteur shares his reflections on his recent work under the mandate, as well as challenges and opportunities for the future.

* [A/75/150](#).

** The present report was submitted after the deadline in order to reflect the most recent developments.



Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes

Summary

In the present report, on the twenty-fifth anniversary of the creation of the mandate, the Special Rapporteur shares his reflections on the recent work under the mandate, as well as challenges and opportunities for the future.

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I. Introduction

1. Twenty-five years ago, the Commission on Human Rights established the mandate on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, under the leadership of the African Group. Over that time, the mandate has evolved in many respects, owing in large part to a more holistic view of the injustices that flow from unsustainable consumption and production patterns, as implied in the Sustainable Development Goals.

2. In the present report, the Special Rapporteur reflects on progress made under the mandate has come in the past 25 years, including recently, and the opportunities for future action following his six-year term. The report pays tribute to the contribution of previous mandate holders to the environmental, health and labour forums and calls upon stakeholders to pay special attention to areas of concern. The report provides a summary of the thematic areas covered by the Special Rapporteur on the basis of evidence collected, analysed and presented in his six reports to the Human Rights Council, three reports to the General Assembly, eight country visits and more than 200 letters to States and businesses on alleged human rights violations and abuses.

II. Environmental justice

3. Environmental injustice has been the driving force behind the mandate. In 1995, the Commission on Human Rights established a mandate on toxic waste because of well-founded concerns over the legal and illegal disposal of waste originating from the global North in the global South. The mandate was established also because of a concern that the 1988 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal had institutionalized and entrenched environmental racism by legalizing the flow of waste from wealthy countries to poorer countries, most of which had little to no capacity to manage the toxic waste inundating their land and contaminating their bodies.

4. The year 2019 marked the thirtieth anniversary of the adoption of the Basel Convention as well as the landmark entry into force of the Amendment to the Convention (the Basel Convention Ban Amendment). The achievements of the Basel Convention are a testimony to the hard work and dedication of many and the power of collective action. With the Basel Ban Amendment in force, exports of hazardous waste from States members of the Organization for Economic Cooperation and Development (OECD) to non-OECD States were finally banned, finally addressing the long-standing inequality and discrimination that the Convention had sought to resolve. At a time when China and other States erected national import bans and restrictions to stop a deluge of waste from foreign countries, the Special Rapporteur raised concerns about the redirection of such waste to various other countries because it stood to exacerbate already existing environmental and social challenges in those countries.

5. Although imperfect, the Basel Convention was driven by concerns anchored in universal values and principles on which the United Nations is based, such as equality, non-discrimination, the dignity of individual human beings, justice and accountability. Those values and principles not only bind together the treaties on chemicals and waste, but also bind them to human rights.

6. Like the cluster of multilateral agreements on chemicals and wastes, the present mandate has also expanded and embraced a life cycle approach. The mandate holder now reports to the Human Rights Council on hazardous substances as well as toxic wastes. Through that life cycle approach, the pervasive discrimination, injustice, racism and impunity that remains rampant with the production, use, export and

disposal of hazardous substances becomes clear. In 2017, in its resolution 36/15, the Human Rights Council extended for the seventh time the mandate on hazardous substances and wastes and requested that the Special Rapporteur report also to the General Assembly, given the rising inequality and injustice from exposure to toxic substances from a multitude of sources and materials.

7. One deplorable example of environmental injustice that continues is the practice by wealthy States of exporting their banned toxic chemicals to poorer nations that lack the capacity to control the risks. The practice was denounced by 36 United Nations experts, who called for it to end.¹

8. High-income States continue to export highly hazardous pesticides and toxic industrial chemicals, resulting in widespread infringements in low and middle-income countries of the human rights to life, dignity and freedom from cruel, inhuman and degrading treatment. Last year, at least 30 States exported hazardous substances that had been banned locally for health and environmental reasons to Latin America, Africa and Asia. In his reports on visits to Canada, Denmark, Germany and the United Kingdom of Great Britain and Northern Ireland,² the Special Rapporteur highlighted the dangers posed by the export of toxic chemicals, and communicated similar concerns to Switzerland.³ He reported on the impacts of such exports on individuals and communities during his visit to Brazil, including the plight of human rights defenders forced to defend communities from exposure to such toxic substances (A/HRC/45/12/Add 2). These cases serve as another illustration of the importance of States being accountable for their extraterritorial obligations (see [E/C.12/GC/24](#)).

9. The ability to manufacture and export toxic substances banned from use domestically is one, albeit large, element of how States have institutionalized externalities through discriminatory national laws and an outdated system of global governance for chemicals and wastes. Wealthier nations often create double standards that allow the trade and use of prohibited substances in parts of the world where regulations are less stringent, externalizing the health and environmental impacts on the most vulnerable. The racialized nature of such standards cannot be ignored.

10. States that export banned chemicals without a strong public interest justification are in violation of their extraterritorial obligations under international human rights law, including their obligations relating to the rights to a healthy environment and safe and healthy working conditions (see [E/C.12/GC/24](#)). In nearly every case, there is no legitimate public interest justification. Such loopholes are a political concession to industry, allowing their chemical manufacturers to profit from inevitably poisoned workers and communities abroad, while importing cheaper products through global supply chains and fuelling unsustainable consumption and production patterns.

11. Environmental injustice persists the world over, where a significant proportion of the global population experiences racial discrimination, whether at the national or international level. Around the world, industrial plants, landfills and other hazardous exposures are placed near areas where indigenous peoples, people of colour and racial and ethnic minorities, people of certain religions and low-income populations live, posing grave risks to their health and environment. Pre-existing and long-standing socioeconomic inequalities aggravate disproportionate exposure to pollution, and populations in low- and middle-income countries raise well-substantiated concerns

¹ See, for example, Office of the United Nations High Commissioner for Human Rights (OHCHR), “States must stop exporting unwanted toxic chemicals to poorer countries, says UN expert”, 9 July 2020.

² A/HRC/45/12/Add 1, [A/HRC/39/48/Add.2](#), [A/HRC/33/41/Add.2](#), [A/HRC/36/41/Add.1](#), respectively.

³ See communication from the Special Rapporteur (CHE 5/2019), and http://www.ohchr.org/Documents/Issues/ToxicWaste/OLCHE_EN.pdf.

about the hazardous impacts of companies from wealthier countries as evidence of “international environmental racism”.

12. In 2001, in a meeting with non-governmental human rights and environmental organizations, the previous mandate holder said that, just because something is not illegal, it may still be immoral, and that allowing the export of products recognized to be harmful is immoral. It is long overdue that States stop that exploitation.

13. There have been good practices towards ending that abhorrent practice. France recently passed legislation to stop the export of chemicals prohibited domestically, taking the right approach to ending double standards. That is a practice that other members of the European Union and OECD members must emulate. Several African countries have implemented progressive efforts to prohibit such imports, under the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa. In 2015, the Committee on the Rights of the Child recommended that Mexico similarly stop importing pesticides because of grave impacts on indigenous children (see [CRC/C/MEX/CO/4-5](#), paras. 51–52). The recommendation has yet to be implemented.

14. Strong national governance systems must be reinforced and enabled by global governance systems. However, the international regime for hazardous substances, including various pollutants and industrial chemicals and pesticides, is grossly outdated and continues to enable and empower those who wish to exploit lower standards of protection and externalize harms abroad. In 2019, the Special Rapporteur made concrete recommendations to the international community on strengthening the global governance systems regarding toxic and hazardous substances and wastes ([A/74/480](#)).

15. Countless environmental injustices also exist within borders. The Special Rapporteur has sought to highlight discrimination nationally during missions and communications to States, in particular among wealthy States with the financial and technical capacity to address systemic problems of race, poverty and discrimination. One example is the situation of many low-income communities in the United States of America, primarily African American and Latin American communities and indigenous peoples, who suffer from higher rates of cancer, heart disease and other health impacts from toxic environments, such as those living in “cancer alley”, the petrochemical production region in the southern United States.⁴

16. The Special Rapporteur has paid specific attention to various vulnerable groups in the past six years, highlighting the disproportionate impacts on them of toxic exposures, as well as their lower standards of health and environmental protections and the challenges in the fulfilment of their human rights. Specifically, children, workers, persons of different genders, indigenous peoples and low-income populations have been some of the groups identified and discussed. However, acknowledging that this is a non-exhaustive list, and cognizant of the incongruence of categorization, there remains adequate opportunity to examine specific challenges and opportunities for improving health and environmental protections for vulnerable groups.

17. In the United Kingdom, the disproportionate exposure of black, Asian and minority ethnic communities to hazardous air pollution was examined ([A/HRC/36/41/Add.1](#)). A study commissioned by the Mayor of London in February 2017 identified 802 educational institutions, including nurseries and schools, as being exposed to levels of nitrogen dioxide that breach European Union legal limits. As highlighted by the Mayor, this is not only an environmental and public health challenge, but also an issue of injustice and discrimination, as victims of the worst pollution often belonging to lower-income groups. The study showed that black,

⁴ See USA 1/2016. Available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadPublicCommunicationFile?gId=18467>.

African and Caribbean people made up 15.3 per cent of the London population exposed to nitrogen dioxide at levels above European Union limits, yet made up only 13.3 per cent of the city's population.

18. Highlighting environmental injustice and discrimination regarding vulnerable groups has strengthened the case for recognizing and realizing environmental rights at the national and international levels. For example, the Special Rapporteur has urged Canada to recognize the right to a healthy environment to end the discrimination experienced by indigenous peoples and other marginalized groups in the country (A/HRC/45/12/Add.1) (see para. 33 below). Recent work has also reinforced the long-standing neglect of the right to safe and healthy working conditions by States and the international community.

19. Across the board and along thematic lines, the grave situation of environmental injustice and environmental racism has been observed. Whether from the perspective of global negotiations concerning the environment and chemicals and wastes, or through pesticides and nuclear weapons and waste, discrimination persists among the general public, and more specifically where those who are most vulnerable on various accounts, whether owing to race, ethnicity, geographical location, age, occupation or other distinction, are disproportionately affected by toxic exposures.

III. Workers

20. Workers around the world find themselves in the midst of a public health crisis despite the existence of clear human rights obligations relating to the protection of their health: it is estimated that one worker dies at least every 30 seconds from exposure to toxic industrial chemicals, pesticides, dust, radiation or other hazardous substances.

21. These are preventable diseases, disabilities and premature deaths arising from the unsatisfactory implementation of – and in many cases blatant disregard for – the human right of every worker to safe and healthy work, despite the international recognition of that right for decades. Furthering the suffering of victims is the audacious behaviour of certain States and businesses that go to unimaginable lengths to deny the impacts on health, set permissible exposure levels that cause health impacts in workers, or go as far as blaming the victims themselves for the misuse of toxic substances, even when labelled in foreign languages or symbols.

22. The particularly heinous nature of that exploitation is that alternatives typically exist that would prevent or minimize exposure. Solutions are available should States choose to compel businesses to adopt them. Therefore, the Special Rapporteur has placed considerable emphasis during his tenure on the need for all States to better protect workers from toxic exposures. This was driven and informed by his own professional experiences as a biochemist using toxic chemicals daily, and the experiences of victims.

23. In that respect, one story stands out in particular. On March 6, 2007, Hwang Yumi died on her way to hospital (see [A/HRC/33/41/Add.1](#), para. 53), five years after she began a job manufacturing electronic consumer products, where it is likely she was exposed to toxic substances every day without her consent or even knowledge of the risks. Ms. Hwang died 20 months after being diagnosed with leukaemia, at the age of 23. Since her death, Ms. Hwang's father has done everything he could to ensure there are no more such victims. He has repeatedly turned down substantial offers of compensation by the company in his mission to prevent the recurrence of abuses. After an unwavering 11-year campaign for justice and accountability by Mr. Hwang and other human rights defenders, Samsung Electronics agreed to accept the results of arbitration for the case of Ms. Hwang and 150–250 other cases of diseases,

disabilities, miscarriages and premature death linked to the production of certain electronic products in the Republic of Korea.⁵

24. Although a positive step, this is only one company in one industry in one country. The International Labour Organization (ILO) estimates that 160 million cases of occupational diseases are reported annually. The absence of effective remedies for perhaps millions of workers exploited by exposure around the world is of grave concern.

25. In 2018, the Special Rapporteur presented to the Human Rights Council his report on the crisis facing workers ([A/HRC/39/48](#) and [A/HRC/39/48/Corr.1](#)).⁶ He described this vicious form of exploitation⁷ and catalogued 12 specific challenges in protecting all workers from toxic exposures. A detailed annex contained the various cases examined by the Special Rapporteur and his predecessors since 2006. The Special Rapporteur believes that much of what was described in the report amounts to unpunished criminal conduct, as well as legalized exploitation.

26. In response to the positive reaction of States to the proposal in 2018 for principles, the Special Rapporteur submitted a final set of 15 principles on the protection of workers from exposure to toxic substances to the Human Rights Council for its consideration in 2019 ([A/HRC/42/41](#)). The 15 principles built on the conclusions of the 2018 report and were developed through an intensive series of consultations with a diverse group of States and other stakeholders.⁸ The principles are grounded in international human rights law and build upon the Guiding Principles on Business and Human Rights, ILO instruments and international agreements on toxic chemicals and wastes, among others. The principles are the outgrowth of cases brought to the attention of the Special Rapporteur since the mandate was created in 1995. If implemented, the principles would contribute to the strengthening of synergies between human rights and occupational health and safety standards regarding the exposure of workers to toxic and hazardous substances and wastes.

27. Following the report, the Human Rights Council adopted its resolution [42/21](#), its first stand-alone resolution on occupational exposure to hazardous substances and wastes and human rights. In the resolution, the Council condemned the violations and abuses of the rights of workers in all parts of the world through unsafe exposure to toxic and hazardous substances and encouraged States, businesses and other actors to implement the 15 principles through their respective legal and policy frameworks, as well as through initiatives and programmes.

28. It is long overdue that ILO recognizes the right to safe and healthy working conditions as one of its fundamental principles and rights at work. In June 2019, the Special Rapporteur and others urged ILO to immediately recognize and adopt safe and healthy working conditions as one of its fundamental principles and rights at work.⁹ Safe and healthy working conditions have been explicitly recognized under the International Covenant on Economic Social and Cultural Rights since 1966 as a fundamental aspect of the right to just and favourable conditions of work. However,

⁵ Baskut Tuncak, Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, “Samsung decision to compensate sick electronics workers welcomed by UN expert, urging action by all firms”, 27 August 2018.

⁶ See Baskut Tuncak, Special Rapporteur on hazardous substances and wastes, “Opening remarks at the 39th session of the Human Rights Council”, 12 September 2018.

⁷ See OHCHR, “A vicious form of exploitation: workers poisoned by toxic substances, says UN expert”, 12 September 2018.

⁸ The Special Rapporteur would like to thank the Friedrich-Ebert-Stiftung Geneva for providing support in developing the principles on worker’s rights.

⁹ See OHCHR, “UN experts urge ILO to back safe and healthy work conditions as a ‘fundamental’ right”, 13 June 2019.

despite the ILO Occupational Safety and Health Convention, 1981 (No. 155), that right is not among the fundamental principles and rights at work.¹⁰ The Special Rapporteur welcomes the significant progress by the International Labour Congress in 2019 towards the recognition of that right as fundamental, and appropriately so.

29. The coronavirus disease (COVID-19) crisis has shone a light on the vulnerability of workers to exposure in general, and among them groups that are even more vulnerable. The Special Rapporteur and others called attention to the urgent need to protect all workers from the exposure to COVID-19.¹¹ The Special Rapporteur also brought attention to the urgent need for States to better protect health-care workers from COVID-19 as the crisis began to unfold outside China. Many frontline workers were not given adequate protection, even during peak periods of contagion. States and businesses must ensure preventative and precautionary measures are in place to protect every worker. In his 2020 report to the Human Rights Council, the Special Rapporteur focused considerably on violations of worker's rights during the pandemic (A/HRC/45/12).

30. Workers that have low-income jobs, or those that are minorities, migrants, older persons or women, or have pre-existing health conditions, as well as those that work in the informal sector and in the "gig" economy, face disproportionate risks. Workers on the front line of the pandemic, providing health care, food, water, sanitation and other necessary goods and services, must be acknowledged, and the families of those who have lost loved ones in such service, condoled.

IV. Indigenous peoples

31. For decades, the Special Rapporteur has reported on the impacts of pollution, contamination and toxic chemicals on the rights of indigenous peoples. Throughout his reports, communications, country visits and other efforts, the Special Rapporteur has sought to highlight the injustice endured by indigenous peoples around the world who remain chronically exposed to hazardous substances and wastes.

32. These hazardous substances and wastes are typically present in the lands, territories and natural resources of indigenous communities not because of decisions they have made or even vaguely participated in, but rather because of a pervasive abuse of and disrespect for their individual and collective rights, in particular article 29 of the United Nations Declaration on the Rights of Indigenous Peoples. Indigenous peoples of the Arctic have been exposed to persistent chemical pollutants never used in their lands. The Yaqui people of Sonora, Mexico have suffered grave adverse impacts on their health and dignity from the ongoing use of highly hazardous pesticides (see [CRC/C/MEX/CO/4-5](#), para. 51). Many of those pesticides are banned from use in their country of manufacture because of their extreme risk to health or the environment, an illustration of the problem described above.

33. In his report on his visit to Canada, the Special Rapporteur highlighted the discrimination endured by indigenous peoples, who are facing grave threats to life, health and dignity from pollution and contamination (see A/HRC/45/12/Add.1). He described a pervasive pattern of inaction by the Government of Canada to protect human rights and provide access to an effective remedy in the face of unquestionable risks and injustices from the cumulative impacts of toxic exposures. Among emblematic cases are the ongoing delay in remediating 10 tons of mercury contamination that dates back 50 years and continues to poison the

¹⁰ International Labour Organization Declaration on Fundamental Principles and Rights at Work.

¹¹ See Baskut Tuncak, Special Rapporteur on hazardous substances and wastes, "COVID-19: health care heroes need protection", 27 March 2020.

Asubpeeschoseewagong (Grassy Narrows) and other First Nations in north-western Ontario; the impacts of extractive industries on human health and wildlife, and elevated incidences of diseases among indigenous peoples linked to oil sands extraction in Alberta; the Trans Mountain pipeline expansion project in British Columbia; the historical injustices against the Aamjiwnaang First Nation in Sarnia's "chemical valley"; and the impacts of aerial spraying of pesticides and hydroelectric projects on indigenous lands. In his visit, he also addressed the need for Canada to end the phenomenal abuse of indigenous rights abroad by Canadian businesses.

34. During his visit to Brazil, the Special Rapporteur raised concerns about the situation of various indigenous peoples whose human rights are violated and abused through the destruction and burning of the Amazon forest, as well as agricultural expansion and the deliberate spraying of toxic pesticides over their lands and homes (see A/HRC/45/12/Add.2). The situation of the Yanomami people is extremely worrying, as their lands have been invaded by extractive industries, their livelihoods destroyed and their health affected through inexcusable exposure to mercury. During his 2019 visit, the Special Rapporteur continued his five-year-long dialogue with the Government and the companies BHP Billiton, Vale and Samarco over the profound impacts suffered by indigenous peoples from the 2015 and 2019 tailing dam disasters, and their marginalization in the remediation processes.¹²

35. In 2018 and 2019, the Special Rapporteur participated in the Permanent Forum on Indigenous Issues and focused on the incongruence of the present cluster of global treaties for chemicals and wastes with the internationally recognized human rights of indigenous peoples. He noted the demand of the Permanent Forum for an ambitious, global and legally binding regime for toxic industrial chemicals and hazardous pesticides that fully accounts for the rights of indigenous peoples.

36. In various communications with Governments and companies, the Special Rapporteur addressed the situation of indigenous peoples and the environmental injustices occasioned. In 2016, the Special Rapporteur decried the situation of indigenous peoples in the United States, who are exposed to toxic pollutants¹³ released or produced by extractive industries, agriculture and manufacturing, as well as the disposal of resulting waste, including nuclear waste. One study found that soil and lead dust pollution from mining waste poses a more significant health concern for indigenous peoples in the United States than other groups.¹⁴ Other studies have found that indigenous peoples in the United States are more likely to live in close proximity to severely contaminated ("Superfund") sites,¹⁵ and 1.8 times more likely to reside near a commercial toxic waste facility.¹⁶ Studies have shown indigenous peoples living near hazardous waste sites suffer from the highest rate of birth defects among nearby communities.¹⁷ Some exposures are to pollutants migrating north from southern

¹² Baskut Tuncak, Special Rapporteur on hazardous substances and wastes, "Lessons from the Samarco disaster", *Business and Human Rights Journal*, vol. 2, No. 1 (January 2017).

¹³ USA 1/2016.

¹⁴ Lorraine Halinka Malcoe and others, "Lead sources, behaviors, and socioeconomic factors in relation to blood lead of Native American and white children: a community-based assessment of a former mining area", *Environmental Health Perspectives*, vol. 110, Suppl. No. 2 (April 2002).

¹⁵ Douglas L. Anderton, John M. Oakes and Karla L. Egan, "Environmental equity in superfund: demographics of the discovery and prioritization of abandoned toxic sites", *Evaluation Review*, vol. 21, No. 1 (February 1997).

¹⁶ Robert D. Bullard and others, *Toxic Wastes and Race at Twenty 1987–2007: A Report prepared for the United Church of Christ Justice and Witness Ministries* (Cleveland, Ohio, United Church of Christ, 2007).

¹⁷ Maureen Orr and others, "Elevated birth defects in racial or ethnic minority children of women living near hazardous waste sites", *International Journal of Hygiene and Environmental Health*, vol. 205, Nos. 1–2 (2002).

sources of emission through wind, water and traditional food sources, resulting in the some of the highest readings recorded of these toxic chemicals in peoples of the Arctic.

37. In Peru, the Special Rapporteur engaged with the Government regarding the extensive environmental contamination of indigenous lands from decades of irresponsible oil extraction and dilapidated, rupturing pipelines in an oil concession known as Lot 192. He travelled at the invitation of indigenous federations to visit areas of the Pastaza, Corrientes and Marañón river basins in the Department of Loreto.¹⁸ Dialogue was fortunately established and agreements reached,¹⁹ but continued concern exists over the health impacts of toxic exposures, including heavy metals, and the continued use of the dilapidated pipeline by Canada-based Frontera Energy, which has now ruptured over 60 times in recent years. During his visit to Canada, the Special Rapporteur held discussions concerning this case with the Government and the company.

38. The Special Rapporteur and other special procedure mandate holders highlighted attacks against human rights defenders persecuted because of their work in defence of the rights of indigenous peoples to a healthy environment and to free, prior informed consent, among others. In 2016, the Special Rapporteur travelled to Standing Rock, United States, to express solidarity with the protestors over the Dakota Access pipeline and investigate allegations.

V. Children

39. Since assuming the mandate in 2014, the Special Rapporteur has focused extensively on the deeply concerning situation of childhood exposure to toxic substances and other pollutants. Children are uniquely vulnerable to adverse health impacts due to toxic and otherwise hazardous substances and wastes. The World Health Organization estimates that over 30 per cent of the global burden of disease can be attributed to environmental factors. Of that amount, 40 per cent falls on children under five years of age, translating into three million deaths annually. It is generally accepted that environmental risk factors act in concert and are exacerbated by adverse social and economic conditions, particularly poverty and malnutrition.

40. The Special Rapporteur's 2016 report to the Human Rights Council ([A/HRC/33/41](#)) was the first thematic report by a Special Rapporteur to highlight in detail the relevance of the Convention on the Rights of the Child to environment protection. The Special Rapporteur denounced the fact that children continue to be born "pre-polluted" and denied their right to bodily integrity, among others, before they can walk. Studies have shown the presence of hundreds of different toxic substances in young and unborn children. Because of widespread childhood exposure, the world is witnessing a "silent pandemic" of disease, disability and premature death.

41. The Convention on the Rights of the Child creates a duty to prevent childhood exposure and in essence enshrines the right of the child to a healthy environment. Childhood exposure to toxic chemicals implicates a number of rights under the Convention, the ratification of which creates the legal obligation to protect the rights of the child to life and to the highest attainable standard of health, and to protect children from pollution and contamination, secure their physical integrity and keep them free from unwanted intrusions in their bodies. The right of the child to bodily integrity has been emphasized by the Special Rapporteur in the present report and other aspects of his work on toxic exposures. In the light of those provisions, the Convention's accountability mechanism and ratification by all but one State, and the

¹⁸ See, for example, PER 5/2017.

¹⁹ National Office for Dialogue and Sustainability of the Presidency of the Council of Ministers; Lima Act of 10 March 2015.

obligation that the child's best interests be a primary consideration of States in environmental and occupational laws, the Special Rapporteur believes that the Convention is the most underutilized environmental treaty to date.

42. During his country visits, the Special Rapporteur has emphasized the situation of children exposed to various hazardous substances. In the United Kingdom, the Special Rapporteur emphasized the "plague" of childhood exposure to air pollutants and other toxic exposures (see [A/HRC/36/41/Add.1](#), para. 23). The United Kingdom House of Commons Environmental Audit Committee has acknowledged that health conditions associated with exposure to harmful chemicals include developmental disorders, endocrine disruption, breathing difficulties, reproductive disorders, cancers and neurological disorders, and that fetuses, children and pregnant women are most at risk. The Committee echoed the Special Rapporteur's warning that, increasingly, we find that children are being born "pre-polluted".²⁰

43. The Special Rapporteur also addressed cases of children exposed to hazardous substances and wastes through communications. In discussions from 2018 to 2020 with the Secretary-General regarding the Organization's responsibility towards victims of lead poisoning in Kosovo,²¹ the Special Rapporteur has called on the United Nations to take immediate action to provide justice and remedies for displaced minority communities who were housed in United Nations camps constructed on toxic wasteland in Kosovo.²² Around 600 members of the Roma, Ashkali and Egyptian communities were placed in the camps between 1999 and 2013 on land known to have been contaminated by lead. Approximately half were children under the age of 14. The Special Rapporteur has through this process urged the Secretary-General to revise the proposed trust fund, which has neither mobilized the necessary resources nor is capable of providing many of the victims with their expectation from the United Nations and its Member States. At present, only one State has contributed to the trust fund, only \$10,000.

44. Lead poisoning has been a persistent concern of the mandate holder, a fact that speaks to the extent of the global crisis facing children from one of the most well-established hazards to a child's healthy development. In 2016, the Special Rapporteur and other mandate holders highlighted the exposure to lead of people living in Flint, Michigan, United States, including children, who were found to have elevated levels of lead in their blood. Childhood exposure to lead is associated with a wide range of impacts, including neurodevelopmental effects, mortality, impaired renal function, hypertension, impaired fertility and adverse pregnancy outcomes. This may lead to behaviour or attention problems, difficulties in school, hearing problems, kidney damage, reduced IQ, slowed body growth, muscle weakness and coma.

45. The case in Flint is not an isolated incident, and in the United States and around the world, various other cases have been brought to the attention of the mandate holder. The Special Rapporteur and others raised concerns about the improper management of lead in a lead smelter operated from 2007 to March 2014 near the Owino Uhuru community, in Kenya. Because of direct and indirect lead exposure, Owino Uhuru community members, including children, and former workers of the

²⁰ United Kingdom of Great Britain and Northern Ireland, House of Commons, Environmental Audit Committee, *Toxic Chemicals in Everyday Life: Twentieth Report of Session 2017–19* (London, 2019).

²¹ References to Kosovo shall be understood in context of Security Council resolution [1244 \(1999\)](#). See [A/HRC/45/12](#), annex; see also OHCHR, "Lead contamination Kosovo: dialogue with UN Secretary-General", 13 March 2019.

²² Nick Cumming-Bruce, "U.N. is rebuked by own expert for neglecting Kosovo poisoning victims", *New York Times*, 13 March 2019.

smelter face serious health problems and human rights violations, without having been provided with adequate remedies over the seven years prior.²³

46. The Special Rapporteur and others addressed alleged lead contamination and poisoning in Zamfara State, Nigeria, from artisanal gold mines. The high levels of lead found in the earth coupled with the use of rudimentary mining methods reportedly resulted in a lead poisoning epidemic among children.²⁴ In 2011, the mandate holder addressed alleged cases of acute lead poisoning, from which nearly 400 children have died since March 2010 as a result of lead poisoning, the majority of whom aged under 5 years.²⁵ Allegedly, an additional 30,000 people in seven villages in Zamfara State had been identified as being at risk of lead exposure by inhalation or ingestion.

47. The Special Rapporteur remains concerned that millions of children around the world continue to engage in the worst form of child labour, where they use or are exposed to hazardous substances. Particularly grave is the situation of child labour in mining and agriculture. The Special Rapporteur has had discussions with various stakeholders from States and businesses regarding the existence of this problem in global supply chains, as well as communications regarding child labour on tobacco farms in Zimbabwe.²⁶ It was alleged that, in the tobacco industry in Zimbabwe, children are involved in work on farms and other parts of the production process and do so in hazardous conditions, often performing tasks that threaten their health and safety or interfere with their education, including pesticide exposure.

48. An equally disturbing trend is the exposure of children to endocrine-disrupting chemicals, where instead of guaranteeing their right to food and nutrition without toxic or hazardous substances, children are “turned into adults” before they should because of hormones in food. This presents questions of legality versus immorality; although research may still be novel, and more evidence needed to provide conclusive links, some substances already known to be harmful in food continue to be used on the false premise that they are within legal limits, despite the human rights abuses and violations occasioned. While such exposure may be legal, this does not serve to eliminate the negative health and developmental effects on children. In his visit to Denmark, the Special Rapporteur commended the Government’s leadership in preventing exposure to endocrine disruptors and other chemicals of concern to the rights of the child. Denmark has applied the principles of prevention and precaution to protect children from toxic threats, often leading to improved standards of protection both in Denmark and abroad.

VI. Human exposure and human rights

49. The Universal Declaration on Human Rights, a milestone document in the history of human rights, and the subsequent International Covenant on Civil and Political Rights, clearly prohibit torture and cruel, inhuman or degrading treatment. The diseases and disabilities that result from exposure to toxic substances are cruel, inhuman and degrading. They include the excruciating pains of cancer, the suffocating torture of respiratory diseases and the psychological torment of parents watching the impacts of their own exposures materialize in their children.

50. Tragically, States tend to establish exposure standards at levels that will inevitably result in such harms, even when the elimination of exposure is both technically and financially feasible. Adherence to legal limits is insufficient to

²³ KEN 6/2014.

²⁴ NGA 6/2012.

²⁵ NGA 1/2011.

²⁶ See, for example, ZWE 1/2018.

sanitize the discriminatory and sometimes predatory exposure of low-income and other vulnerable communities to toxic substances. Workers, children, women of reproductive age, older persons, low income communities and minorities are among the vulnerable who are legally poisoned.²⁷

51. No State can meet its human rights obligations, whether to life, health or freedom from degrading treatment, without preventing human exposure to hazardous substances. Whether framed as environmental rights, occupational rights or the specific rights of vulnerable groups, the principles of equality and non-discrimination depend on the prevention of exposure to pollution and toxic chemicals. Exposure to hazardous substances preys on the most vulnerable in society and is an invisible threat to their rights and dignity, including bodily integrity.

52. In the past six years, the Special Rapporteur has focused on the considerable contrast between legally permissible exposures to hazardous substances and the obligations incumbent on States to respect, protect and fulfil the human rights of all through the prevention of exposure. In October 2019, the mandate holder presented a report to the General Assembly on the duty to prevent exposure (A/74/480).²⁸ Building upon his 2016 report to the Human Rights Council, in which he discussed the duty of States to prevent childhood exposure (A/HRC/33/41), the Special Rapporteur recalled and clarified in his 2019 report (A/HRC/42/41) the duty of States to prevent exposure and the legal foundation of that duty. Derived from the human rights to life, health, dignity and bodily integrity, the right to information and right to a healthy environment, as well as equality and access to an effective remedy, States have a duty to “prevent and minimize” exposure to hazardous substances to protect against preventable diseases and disabilities, considering prevention as a precondition to such duty (see E/C.12/2000/4). However, for many substances, an approach of prevention has been the exception not the norm, leading to existential threats to life and health, including reproductive health.

53. In his 2020 report to the Human Rights Council (A/HRC/45/12), the Special Rapporteur applied the framework on the duty to prevent exposure to the case of COVID-19. He commended certain States and business for upholding their duty and responsibility to prevent exposure to the novel coronavirus with courage, transparency and conviction, and highlighted key elements common among those who have catastrophically failed. He identified key challenges and issues with the management of the pandemic, highlighting underlying reasons for Governments’ and businesses’ failures, and their consequences for vulnerable groups. The Special Rapporteur called upon States to better protect vulnerable groups and to safeguard nature and improve environmental quality, noting the critical role played by a healthy and sustainable environment in preventing such pandemics and mitigating severity of infection.

VII. Right to information

54. Information on risks, mitigation measures and safer alternatives can help prevent harm and avoid premature deaths owing to hazardous substances. However, over the past several decades, tens of thousands of different hazardous substances have been propagated by businesses, with inadequate information on their uses and properties, as well as their fate as waste, making it often nearly impossible to assess their impacts on human rights. Rates of cancer, diabetes and other illnesses linked to the production and use of hazardous substances have been on the rise over that time, much of which cannot be explained by lifestyle choices or genetics but point clearly

²⁷ Carl F. Cranor, *Legally Poisoned: How the Law Puts Us at Risk from Toxicants* (Cambridge, Massachusetts, Harvard University Press, 2011).

²⁸ See also OHCHR, “Report on the duty to prevent exposure”. Available at www.ohchr.org/.

to environmental and occupational exposures. Yet, information is neither available nor accessible about the safety of tens of thousands of chemicals on the market or at the workplace, or emissions to the environment, the degree of exposure to those hazardous substances from various sources and the resulting impacts of human exposure to them, all of which enables impunity among perpetrators.

55. In his 2015 report to the Human Rights Council (A/HRC/30/40), the Special Rapporteur emphasized the right to information on hazardous substances and wastes as a precondition to the enjoyment of human rights and fundamental freedoms. The right to information implicates the right of victims to an effective remedy, the right to meaningful participation, the right not to be subject to experimentation without consent and the rights to life, dignity and the highest attainable standard of health, among others, which have all been violated by large information gaps throughout the life cycle of substances and wastes.

56. Information should be available, accessible and functional for everyone, consistent with the principle of non-discrimination. In order to protect those human rights affected by hazardous substances, States are duty-bound to generate, collect, assess and update information, as well as to communicate effectively, while ensuring confidentiality and engaging in international cooperation to ensure dissemination of adequate information within and outside borders. Businesses, throughout the supply chain, are responsible for assessing the potential impacts and consequences of toxic exposures, either through their own activities or resulting from their business relationships, and to communicate effectively information to other businesses, Governments and the public.

57. The Special Rapporteur welcomes the development of the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (the Escazú Agreement), the first environmental rights treaty of Latin America and the Caribbean. The Escazú Agreement has important provisions that could help with the generation and accessibility of environmental information and deserves urgent ratification.²⁹

VIII. Business and human rights

58. The responsibility of businesses to respect human rights has been an area of focus of the Special Rapporteur under his mandate, working closely with the Working Group on business and human rights and other experts. In the past six years, the Special Rapporteur has, through communications and country visits, examined hundreds of cases of alleged human rights abuses by businesses and the extraterritorial obligations of States and responsibilities of transnational corporations.

59. Everyday around the world, countless victims continue to suffer adverse effects from exposure to hazardous substances because of business activities. For example, one worker dies every minute from exposure to hazardous substances, including at the workplace. In addition, for the victims who suffer adverse health or other effects because of hazardous substances used, produced or released by business activities, many remain without an effective remedy.

60. No State will meet its human rights obligations without compelling businesses and other actors in their jurisdiction to transition to cleaner, safer, healthier and more sustainable chemical production, use and disposal, whether in their territory or abroad.³⁰

²⁹ See, for example, ATG 1/2019; and ARG 10/2019.

³⁰ United Nations Environment Programme, *Global Chemicals Outlook II: From Legacies to Innovative Solutions – Implementing the 2030 Agenda for Sustainable Development* (Nairobi, 2019).

IX. Toxicification and the silent erosion of human rights

61. In his 2019 report to the General Assembly (A/74/480), the Special Rapporteur described an often forgotten environmental crisis, lost in the shadow of climate change: the toxification of our bodies and planet. The following examines various activities by States and businesses that are contributing to the increasing violation and abuse of human rights, the silent pandemic that is largely going unnoticed.

Chemical industry

62. The chemical industry sits at the epicentre of many human rights abuses by business, including toxic pollution, climate change and biodiversity loss, as well as the poisoning of workers. The Special Rapporteur has on various occasions called on the chemical industry to conduct meaningful human rights due diligence for its products and activities.³¹ Having met with numerous chemical companies and trade associations around the world, he has found only one chemical company with a reasonably robust human rights due diligence process in relation to their chemical products and activities, and most without anything remotely appropriate.

63. In March 2019, the Special Rapporteur called on China to live up to its promise to implement effective measures to combat the hazards and risks in its rapidly growing chemical industry to workers, local communities and the public at large.³² On 21 March 2019, at least 78 people died and hundreds were injured in a blast in Yancheng city. This followed the death of over 160 people in a 2015 explosion at a chemical warehouse in Tianjin, most of whom were brave first responders to the fire, unaware of the tremendous stockpile of explosive chemicals contained inside. It is saddening, but not surprising, that intermittent efforts since the 2015 Tianjin disaster did not suffice.³³

64. In May 2020, following a deadly gas leak at an LG Polymers chemical plant in India, the Special Rapporteur again called on the chemical industry to respect human rights. The “Vizag” disaster served as a disturbingly nightmarish reminder of the toxic gas leak that killed thousands in Bhopal, India, in 1984. It is a grim wake-up call for all businesses to recognize the breadth of human rights infringements wrought by rampant consumption and production of plastics. He urged authorities to ensure those responsible are held to account, and also urged the Governments of India and the Republic of Korea to ensure all victims of exposure, including those who develop diseases or disabilities later in life, are provided with an effective remedy.³⁴

Pesticides, food and agriculture

65. The Special Rapporteur worked with the Special Rapporteur on the right to food to provide a clearer account of global pesticide use in agriculture and the negative consequences on human health, the environment and society, which are underreported and inadequately monitored in the shadow of a prevailing and narrow focus on “food security.” In their 2017 report (A/HRC/34/48), they uncovered rights abuses and violations inflicted upon agricultural workers, rural communities, indigenous peoples, pregnant women and children, among others.

³¹ See Baskut Tuncak, Special Rapporteur on hazardous substances and wastes, “Chemical industry must step up on human rights to prevent more Bhopal-like disasters”, 14 May 2020. and Baskut Tuncak, “Bhopal: chemical industry must respect human rights”, 27 November 2019.

³² See Baskut Tuncak, Special Rapporteur on hazardous substances and wastes, “China must fulfil repeated pledges on chemical safety”, 29 March 2019.

³³ See Baskut Tuncak, Special Rapporteur on hazardous substances and wastes, “China: UN human rights expert calls for greater transparency in the wake of tragic Tianjin explosion”, 19 August 2015.

³⁴ See Tuncak, “Bhopal: chemical industry must respect human rights”.

66. In the abovementioned report, the Special Rapporteurs emphasized that it is possible to produce healthier, nutrient-rich food, with higher yields in the longer term, without polluting and exhausting environmental resources. They also stated that, while scientific research confirms the adverse effects of pesticides, proving a definitive link between exposure and human diseases or conditions or harm to the ecosystem presents a considerable challenge. That challenge has been exacerbated by a systematic denial, fuelled by the pesticide industry and agroindustry, of the magnitude of the damage inflicted by such chemicals, and aggressive, unethical marketing tactics remain unchallenged.

67. In a landmark decision that applied for the first time an updated interpretation of the right to life ([CCPR/C/126/D/2751/2016](#)), the Human Rights Committee found that Paraguay had violated the rights to life and a life with dignity of over 20 people who had been exposed to toxic pesticides. The finding reinforced that the State's failure to prevent exposure can be a violation of the right to life and a life with dignity, even in absence of premature death.

68. Most country visits by the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes examined pesticide practices. Denmark developed good practices to reduce pesticide use, such as clear criteria for those pesticides forbidden from use and taxes to reduce the use of those allowed (see [A/HRC/39/48/Add.2](#)). However, most visits uncovered issues of concern, such as the export of banned pesticides to poorer countries, discussed above. In Brazil, widespread violations and abuses arising from exports of such pesticides and their virtually unchecked use were concerning ([A/HRC/45/12/Add.2](#)). Particularly troubling were allegations by indigenous and Afro-Brazilian communities of pesticides used as "chemical weapons" and children exposed at home, school and work, which amounts to one of the worst forms of child labour.

69. The special needs of low-income countries regarding pesticides and other toxic chemicals were evident in the Special Rapporteur's visit to Sierra Leone (see [A/HRC/39/48/Add.1](#)). Commendably, the Government acknowledged difficulties in monitoring and regulating pesticides. In the absence of a public laboratory for monitoring of pesticide residues in food, water and the environment, the level of pesticide use in the country has not been fully studied and therefore is highly likely to be underestimated. A study on the use of pesticides on rice crops yielded troubling results illustrating the risks of unregulated use of chemicals in agriculture, including some internationally banned pesticides. Sierra Leone is not alone in these concerns, as they also apply to most low- and some middle-income countries.

70. Access to remedies has been a recurring concern. For example, during his visit to the United Kingdom (see [A/HRC/36/41/Add.1](#)), the Special Rapporteur was troubled by the emblematic case of sheep farmers who were unable to gain access either to justice or remedy for health impacts, despite evidence of having been knowingly exposed to hazardous pesticides, required for use by the Government.

Manufacturing

71. In 2018, the Special Rapporteur welcomed a decision by the electronics giant Samsung to accept unconditionally an arbitration proposal on compensation for South Korean workers who had suffered serious illnesses while working for the company and on measures to prevent any recurrence.³⁵ As discussed above, more than 250 workers alleged that their health had been affected by exposure to toxic substances in

³⁵ See Tuncak, Special Rapporteur on hazardous substances and wastes, "Samsung decision to compensate sick electronics workers welcomed by UN expert".

the manufacture of semiconductor chips and liquid crystal display panels. The Special Rapporteur has addressed the case throughout his mandate, starting with his 2015 visit to the Republic of Korea (see [A/HRC/33/41/Add.1](#)).

72. In March 2019, the Special Rapporteur alleged human rights violations due to asbestos production, use and disposal, by the Government of India,³⁶ the Government of Belgium³⁷ and the companies involved, including ETEX/Eternit.³⁸ Approximately 1 million tons of asbestos was dumped in the village of Kymore, Madhya Pradesh, India, which can cause asbestosis, mesothelioma and lung cancer among the exposed community. At present, victims are unable to secure their right to an effective remedy and will remain so unless India reforms laws for victims of asbestos exposure.

Extractive industries and fossil fuels

73. For nearly the entirety of his tenure, and most recently in a country visit in December 2019, the Special Rapporteur has engaged with the Government of Brazil, as well as the companies Vale, BHP Billiton and Samarco, in relation to the catastrophic situation of tailings dams in the country, including the collapses of dams in Mariana (2015) and Brumadinho (2019) (see [A/HRC/45/12/Add.2](#)). In January 2019, the mandate holder initiated a joint call of the Special Rapporteurs for a prompt, thorough and impartial investigation into the tailings dam collapse in Brumadinho, the second such incident involving Vale in recent years.³⁹ The Special Rapporteur first raised concerns of the toxicity of the tailing waste for the Mariana dam collapse in 2015,⁴⁰ which was confirmed by subsequent studies and health impacts of mud stored in Barra Longa years later (*ibid.*). He sent numerous allegation letters about the problematic Renova Foundation, and the process of providing remedies to indigenous communities.⁴¹

74. In his visit to Canada, the Special Rapporteur addressed the domestic and extraterritorial impacts of extractive industries. In the case of the Alberta tar sands, the Special Rapporteur was dismayed by the phenomenal destruction of the environment, the enormity of man-made mountains and lakes of toxic waste and residential communities surrounded by one of the most toxic, greenhouse gas intensive and unsustainable forms

³⁶ IND 4/2019.

³⁷ BEL 1/2019 and responses dated 12 April 2019, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34623>, and 5 June 2019, available at **Error! Hyperlink reference not valid..**

³⁸ OTH 5/2019; OTH 6/2019.

³⁹ See OHCHR, “Brazil: UN experts call for probe into deadly dam collapse”, 30 January 2019.; Marina Wentzel, “Brumadinho: ‘Desastre deve ser investigado como crime’, diz ONU”, BBC News Brasil, 28 January 2019.

⁴⁰ See OHCHR, “Brazilian mine disaster: “This is not the time for defensive posturing” – UN rights experts”, 25 November 2015.

⁴¹ See BRA 10/2015; OTH 13/2015 and response dated 23 December 2015, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=32674>; OTH 11/2015 and response dated 10 December 2015, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=33230>, and response dated 14 January 2016, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=33229>; OTH 12/2015 and response dated 14 January 2016, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=32545>; BRA 2/2016 and response dated 30 January 2016, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=2093>; BRA 11/2018 and response dated 16 November 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34415> and <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34416>; OTH 57/2018; OTH 56/2018; OTH 59/2018 and responses dated 18 October 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34369> and 16 January 2019, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34483>, and attachments; OTH 58/2018; AUS 4/2018 and response dated 30 November 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34433>; and Tuncak, “Lessons from the Samarco disaster”.

of energy production. He also raised the systematic disregard of human rights by Canadian extractive industries operating abroad (see A/HRC/45/12/Add 1).

75. The Special Rapporteur addressed the exposure of residents of Puerto Rico to toxic chemicals resulting from the disposal of coal combustion wastes, marketed as “coal combustion products” under the brand Agremax.⁴² The Special Rapporteur welcomes the decision to phase out coal in Puerto Rico but remains concerned about unaddressed contamination and disposal of residual waste.

76. The Special Rapporteur has also called upon States to end the unethical and illegal export of extremely toxic fuels to Africa from Europe, the United States and elsewhere.⁴³ Businesses based in wealthier countries continue to export fuel containing extremely high levels of sulphur and other toxic substances – that would not be allowed for sale in their home countries – for sale on the African market. The so-called “dirty diesel” is estimated to kill thousands of people in Africa each year, which may rise to 31,000 premature deaths and countless injuries to health by 2030 if unaddressed. The Special Rapporteur has engaged with companies implicated and urges them and their home States to redouble their efforts to end this violation and abuse of human rights.

77. The Special Rapporteur has addressed numerous other cases involving extractive industries and fossil fuels with States and businesses concerned in allegation letters and other country visits.⁴⁴

Consumer products

78. The Special Rapporteur has raised concerns about toxic chemicals in consumer products with States and businesses, particularly for child rights. One example is the case of “humidifier sterilizers” marketed and sold to consumers without adequate investigation of their risks to human health and life in the Republic of Korea (see A/HRC/33/41/Add.1, para. 30). Several thousand children, women and older persons were victims of a hazardous chemical mixture sold by Reckitt Benkiser and SK Chemical that they had added to their humidifier water tanks, which was then dispersed inside their homes. Approximately 1,350 cases of death are acknowledged. The chemical mixture was marketed on the premise that it would promote health and well-being, but instead poisoned consumers, including babies and pregnant women. The companies did not test potential health impacts, despite the fact that inhalation and dermal exposure could have been reasonably foreseen. In 2018, the Special Rapporteur raised concerns that the chemical manufacturers had not been appropriately sanctioned for their lack of due diligence, and fined approximately \$92 per death with no criminal sanctions.⁴⁵

Nuclear power and weapons

79. In the aftermath of the Fukushima Daichi nuclear disaster, the Special Rapporteur and others have consistently raised concerns about the approaches taken

⁴² USA 8/2019 and OTH 12/2019.

⁴³ See Baskut Tuncak, “The crime of exporting deadly air must end”, 4 June 2019.

⁴⁴ See, for example, A/HRC/36/41/Add.1, A/HRC/39/48/Add.1, A/HRC/39/48/Add.2, A/HRC/45/12/Add.1, A/HRC/45/12/Add 2, and PHL 1/2019 and response dated 15 February 2019, available at <https://spcomm.reports.ohchr.org/TMResultsBase/DownloadFile?gId=34533>; IDN 1/2019 and response dated 1 November 2019, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=35321>; OTH 40/2018 and response dated 27 August 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34306>; RUS 12/2018 and response dated 22 August 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34305>.

⁴⁵ AL KOR 5/2018.

by the Government of Japan. Specific areas of attention include the raising of “acceptable limits” of radiation exposure to urge resettlement and the possible exploitation of migrants and the poor for radioactive decontamination work violating the Government’s human rights obligations, including to children and workers.⁴⁶ In 2020, the Special Rapporteur and others raised concern at how the Government had been managing the COVID-19 crisis, and reportedly dramatically accelerating its timeline for deciding whether to dump radioactive wastewater accumulating at Fukushima Daichi in the ocean.⁴⁷

80. The hazards of nuclear testing continue to affect the lives of many victims, and Governments worldwide should redouble their efforts towards global nuclear disarmament. On the seventy-fifth anniversary of the Trinity tests in the United States that heralded the nuclear age, the Special Rapporteur drew attention to the struggles of many other communities that are still forced to endure the legacy of nuclear testing performed during the Cold War.⁴⁸ From the detonation of hundreds of nuclear bombs over vulnerable communities in the Pacific to the disposal of hazardous radioactive waste on lands and territories of indigenous peoples, the legacy of nuclear testing is one of the cruellest examples of environmental injustice witnessed.

81. The racial and ethnic discrimination of nuclear testing is disturbing. In particular, the Marshall Islands face twin existential threats of climate change and radioactive contamination. From 1946 to 1958, 67 nuclear bombs were detonated on the Marshall Islands (see [A/HRC/21/48/Add.1](#), para. 15). Those communities have suffered unimaginably from the insidious harms of radioactive exposure. However, their suffering continues to this day with a legacy of contamination, illness and anguish wrought by the nuclear tests.

82. In January 2019, the Special Rapporteur brought to the attention of the Government of France the continuing consequences of approximately 200 nuclear tests it conducted in French Polynesia between 1966 and 1996. Local populations have suffered and continue to suffer violations to their human rights to life, to health, the rights of the child, the right to information and to legal remedies, among others, as a result of that programme.⁴⁹ The Special Rapporteur welcomes the acknowledgement by the Government of France in May 2019 of health impacts from the nuclear tests and urges all parties to work toward an effective remedy that will leave future generations of Polynesians able to enjoy their human rights.

83. The indigenous peoples of the United States continue to bear tremendous environmental health impacts of radioactive waste, such as uranium waste heaped on the lands and territories of the Navajo Nation.⁵⁰ In recent decades, numerous Native American tribes have received funding to store unwanted nuclear waste on their lands. Those of Point Hope, Alaska, became recipients of radioactive soil, and higher cancer

⁴⁶ JPN 2/2017 and response dated 8 June 2017, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=33521> and attachments, for example, <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=33522>; JPN 5/2018 and response dated 17 August 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34302>; JPN 6/2018 and response dated 5 November 2018, available at <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=34391>; See also Baskut Tuncak, Urmila Bhoola and Dainius Puras, “Japan: Fukushima clean-up workers, including homeless, at grave risk of exploitation”, press release, 17 August 2018 and Baskut Tuncak, “Japan must halt returns to Fukushima, radiation remains a concern”, press release, 25 October 2018.

⁴⁷ JPN 1/2020 and response dated 12 June 2020, available from <https://spcommreports.ohchr.org/TMResultsBase/DownloadFile?gId=35338>; see also press Baskut Tuncak and others, “Fukushima: Japan must not ignore human rights obligations on nuclear waste disposal”, press release, 9 June 2020.

⁴⁸ See Baskut Tuncak, “Nuclear testing’s discriminatory legacy must never be forgotten”, 16 July 2020.

⁴⁹ FRA 1/2019.

⁵⁰ USA 1/2016.

rates that are believed to have been the foreseeable result (see [A/HRC/21/47/Add.1](#), para. 120). In addition, as the ice continues to melt in the Arctic, the people of Greenland discovered radioactive waste left by the United States military unbeknownst to them (see [A/HRC/39/48/Add.2](#)).

84. Decades after the use of nuclear weapons, and nuclear disasters, the related hazards remain a chronic persistence in the lives of many innocent victims. States must provide an adequate, acceptable and long-lasting solution to such situations to meet their duty to secure access to justice and effective remedies. The discriminatory nature of nuclear testing should be acknowledged and addressed as part of the ongoing conversation on systemic racism and nuclear disarmament. Unaddressed, the dangers of radioactive contamination will persist for centuries, and so too will the harmful legacy of racism that surrounds this tragic chapter of humanity.

X. Conclusions and recommendations

85. **In the 25 years since the creation of the mandate, the breadth and depth of our exposure to hazardous substances has become increasingly clear. What originated from the problem of waste flows from wealthier to poorer countries is now illuminated as a situation of the most vulnerable suffering the insidious impacts of toxic substances through the life cycle of consumption and production, both within and between borders. From air pollution to water and food contamination, the most vulnerable in society continue to find themselves on the wrong side of a toxic divide, under an invisible weight of systemic injustice and discrimination where the poor, workers, migrants and minorities, among others, are more often than not legally poisoned.**

86. **Children, workers, indigenous peoples, low-income communities and other vulnerable groups are unfortunately on the side that does not equally enjoy the human rights to life and the highest attainable standard of health, to safe food and safe water and to adequate housing. Individuals and communities, from the Arctic to Australia, from the Americas to Africa and Asia, continue to suffer from adverse health effects ranging from cancers to miscarriages, birth defects, heart and lung impairments, learning disabilities and diabetes, among others, that are linked to toxic air pollutants, industrial chemicals, pesticides and other environmental insults. Around the world, the human rights that everyone should enjoy regarding freedom from toxic pollution are unfortunately treated as a privilege of the few, not a right of everyone.**

87. **Over the past six years, the Special Rapporteur has sought to highlight the plight of the most vulnerable in society to toxic exposures. Through reports and investigations of hundreds of different cases, it is abundantly clear that processes by which the risks and impacts of exposure are assessed have failed the most vulnerable. These endeavours have consistently emphasized risk assessments as the way forward, despite a consistent underestimation of the risks, particularly for the most vulnerable. Risk assessments have ignored the human right to bodily integrity and instead demonstrate a systemic bias to permit human exposure, rather than ensuring a meaningful exercise of the State's duty to prevent exposure.**

88. **The interconnectedness of global supply chains shows clear links between our neglect of truly sustainable development and the prevalent exploitation of vulnerable individuals and communities. Of particular concern is the export and import of toxic industrial chemicals and pesticides banned from use where they are manufactured for health or environmental reasons. States should levy polluting industries to mobilize funds to finance the strengthening of environmental health protection, both nationally and outside their borders, to**

address the extraterritoriality of human rights abuses occasioned through the export of toxic exposures.

89. There remains a failure to realize the right to information and ensure an effective remedy for the vast majority of toxic exposures. States continue to permit many businesses to conduct business as usual, emboldening a sense of impunity in the private sector of much of the world, failing to compel the adoption of safer chemicals and production practices and disincentivizing the development of further advancements. While toxic exposures can be reduced, States and businesses – by failing to compel key industries to perform human rights due diligence and ensure access to remedies – continue to lead us toward the increasing toxification of our planet and bodies, a common dystopian future that no one wants but for which the political will is lacking to prevent.

90. The increase in recognition of environmental and occupational rights has coincided with ever-increasing politicization and other distractions that only serve to tragically ignore the plight and human rights of victims. Establishing what exposure limits are “permissible” is central to giving human rights substantive meaning, yet such limits continue to be rarely influenced by what is required by human rights laws and standards. Looking ahead, more precision is necessary regarding what is “safe”, “healthy” and “clean” in order to substantively advance related environmental rights under national constitutions and other legal frameworks. Similarly, this is also long overdue for occupational rights, where safe and healthy work remains grossly underrealized globally and unrecognized by ILO as one of its “fundamental” principles and rights.

91. The development of the mandate has come thanks to the precious contributions of many from various sectors, backgrounds and countries. The Special Rapporteur is deeply grateful and indebted to the contributions of too many individuals and organizations to name individually. He notes with gratitude and appreciation the increased interest in the mandate of health professionals around the world, from paediatricians to academicians. In the future, there will be a general need for more health, medical and scientific professionals to engage on the issue of human rights and toxic or hazardous substances and wastes, to further the discussions beyond the preserve of human rights lawyers, to address the intersectionality of issues and to benefit from the convergence of perspectives.

92. The continued collaboration, participation, support and engagement of States, civil society and victims that have consistently provided information, resources and expertise to the mandate holder cannot be overstated. Specific commendation must be made to Côte d’Ivoire, the sponsor of the mandate, and the African Group, without whom the mandate would have not existed in the first place. Over the years – and with the expansion of the issues considered, taking into account the extraterritorial obligations of States – other regions, such as the European Union, have increasingly taken an interest in the issue of toxic or hazardous substances and wastes and human rights, and must be acknowledged.

93. Lastly, the Office of the United Nations High Commissioner for Human Rights and the staff supporting the mandate deserve gratitude for their esteemed support as its secretariat and for contributing to streamlining protections against exposure to toxic and hazardous substances and wastes in the United Nations human rights system.

94. The Special Rapporteur recommends that the United Nations establish an expert group to evaluate States’ performance on environmental rights, drawing on all relevant human rights instruments applicable to States concerned.

95. **The Special Rapporteur recommends that States:**

(a) **Implement the principles on worker's rights and toxic or hazardous substances and wastes, and their facilitate implementation by businesses and international organizations, as encouraged by the Human Rights Council in its resolution [42/21](#);**

(b) **Strengthen the rule of law for environmental and occupational rights nationally and extraterritorially, including by recognizing their duty to prevent exposure;**

(c) **Urgently address the issue of causation to ensure the elimination of related obstacles for victims in gaining access to an effective remedy when exposed to toxic or hazardous substances and wastes;**

(d) **Develop and implement international and national procedures for the remediation of contaminated sites worldwide;**

(e) **Apply criminal sanctions more readily against individuals and entities that expose people to substances that are known and should be known to be toxic;**

(f) **Ensure the justiciability and application of ecocide in international courts;**

(g) **Ensure that global treaties on toxic chemicals and wastes include the transboundary risks of hazardous substances in the supply and value chains as also constituting a "global concern", in addition to those of substances that travel long distances through the environment;**

(h) **End the exploitation of communities in poorer countries occasioned through export of toxic chemicals banned from use where they are manufactured;**

(i) **Ratify all treaties on chemicals and wastes, including and in particular the Basel Ban Amendment;**

(j) **Ensure that the right to information is fully implemented for hazardous substances regardless of the medium, including implementation of pollutant release inventories.**

96. **The Special Rapporteur recommends that high-income States increase their financial contributions to national, regional and international initiatives to protect people from exposure to toxic or hazardous substances and wastes through levies on polluting industries.**

97. **The Special Rapporteur recommends that low- and middle-income States include expenses for exposure prevention in their development agendas to facilitate the financing of such initiatives.**

98. **The Special Rapporteur recommends that businesses:**

(a) **Uphold their responsibilities regarding the human right to information, including by integrating detailed assessments of toxic exposure-related harms into their human rights due diligence for workers and communities;**

(b) **Respect the right of every child to be born free from pollution and other toxic chemicals;**

(c) **Respect the rights of workers to safe and healthy working conditions and rigorously apply the hierarchy of hazard controls;**

(d) **Phase out the production and use of toxic chemicals and invest in the development of safer alternatives;**

(e) **Work with victims and States to realize the right to an effective remedy instead of perpetrating obstructionism.**

99. **The Special Rapporteur recommends that ILO recognize safe and healthy work as one of its Fundamental Principles and Rights at Work.**
