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Item 69 (b) of the provisional agenda\*

**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, Marcos Orellana, in accordance with Human Rights Council resolution [45/17](#).

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\* [A/77/150](#).



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

**The impact of toxic substances on the human rights of indigenous peoples**

*Summary*

In the present report, the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes, Marcos Orellana, examines the negative implications of toxic and hazardous substances on indigenous peoples' enjoyment of human rights. Mining, oil and gas exploration and extraction, spraying of toxic pesticides, dumping of hazardous wastes, and military activities have appalling effects on the rights of indigenous peoples. Every aspect of indigenous peoples' lives is affected by the contamination of their bodies, lands, waters, food, wildlife and plants. The Special Rapporteur puts forward recommendations aimed at addressing the adverse consequences of toxic substances on indigenous peoples, including how legal instruments on chemicals and wastes should be interpreted in the light of the United Nations Declaration on the Rights of Indigenous Peoples.

## I. Introduction

1. Indigenous peoples face a grave threat to their health, lands and territories from exposure to hazardous substances and wastes. Indigenous peoples intimately connect with the environment that they inhabit and consequently suffer disproportionate harm from encroachment on their territories due to industrial expansion, agribusiness, extractive industries and waste dumping, among others. Structural racism silences the voices of indigenous peoples and aggravates the disproportionate burden of toxic pollution.
2. Exposure to toxic substances<sup>1</sup> is a form of environmental violence against indigenous peoples, and several factors drive and perpetuate it. Colonialism has imposed profit-centred activities that blatantly ignore the health and welfare of indigenous peoples and their lands. An expanding global economy prioritizes wealth for the few at the expense of indigenous peoples' rights. Extractive industries in indigenous territories often overlook the economic and other costs of environmental pollution and non-market use of natural resources.
3. Access to justice for indigenous peoples for the adverse effects of toxics on their lands and health is limited and often illusory. Minimal financial resources, State discrimination and corruption, and a lack of protective laws cement the continued marginalization of indigenous people.
4. In some cases, exposure to toxics leads to forced relocation of indigenous peoples, compromising livelihoods and cultural and spiritual practices. Severe toxic contamination results in proliferating sacrifice zones that threaten indigenous peoples' very existence as distinct peoples. There is also psychological and spiritual strain on indigenous peoples from forced relocation due to their lands and territories being rendered uninhabitable by toxics.
5. Indigenous people suffering from exposure to hazardous substances have limited access to primary health-care services. Traditional health practices cannot cope with new and unfamiliar health problems that emerge from exposure to toxics. Government authorities and businesses often attribute health disparities among indigenous people to neglect or cultural practices.
6. The overwhelming and disproportionate impact of toxics on indigenous peoples infringes on recognized collective and individual rights, including the rights of indigenous peoples to culture, land and natural resources, free, prior and informed consent, food, water, a healthy environment, life, health and personal integrity, among others. These violations are widespread and systematic and must stop now.
7. Under the toxics and human rights mandate, guidelines<sup>2</sup> intended to help States, businesses, civil society and other actors "identify and address key problems that give rise to human rights abuses due to toxics" have been prepared. In the guidelines, it is acknowledged that "indigenous peoples continue to suffer grave rights abuses in connection with the contamination of their lands and territories with pollution from extractive industries, toxic chemicals that migrate long distances via wind and water, and the dumping or leaching of hazardous wastes".
8. In its resolution 45/17, the Human Rights Council decided to extend the mandate of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes and requested

<sup>1</sup> For ease of reference, the Special Rapporteur refers to hazardous substances and wastes as "toxic substances", and thus the term "toxic substances" (or "toxics") as used in the report also includes non-toxic but hazardous substances and wastes.

<sup>2</sup> See [A/HRC/36/41](#).

the Special Rapporteur to continue to provide detailed, up-to-date information on the adverse effects of toxics exposure on individuals and groups in vulnerable situations, specifically indigenous peoples.

9. The present report was informed by a broad consultative process by which the Special Rapporteur invited input from States Members of the United Nations, indigenous peoples, international organizations, non-governmental organizations, national human rights institutions and academicians. He widely disseminated a questionnaire, to which he received numerous valuable submissions.<sup>3</sup> The Special Rapporteur co-organized online consultations with indigenous peoples from 17 to 19 May 2022,<sup>4</sup> co-organized a side event at the twenty-first session of the Permanent Forum on Indigenous Issues in New York on 26 April and made a statement to the Permanent Forum on 27 April.

10. The Special Rapporteur expresses his gratitude to those who shared their expertise, insights and perspectives both in their written submissions and at online meetings. Those valuable insights have been incorporated into the findings in the report.

## II. Activities imposing toxic impacts on indigenous peoples

11. Conquest and colonization on indigenous territory directly led to activities that pollute and adversely affect every aspect of indigenous peoples' lives.<sup>5</sup> Today, the new colonizers are dressed in the attires of mining, oil and gas, and agribusiness, often with States' overt or silent complicity.

12. The influx of workers and settlers exposes indigenous peoples to viruses and diseases unknown in their communities, and for which indigenous people lack immune defences.<sup>6</sup> The result of this exposure threatens indigenous peoples' survival, particularly those peoples living in isolation.

### A. Mining

13. Mining releases more than 180 million tons of hazardous waste each year into rivers, lakes and oceans worldwide, affecting vital sources of water for humans and wildlife. Indigenous peoples are disproportionately affected by extractive activities because their land and territories contain valuable deposits of minerals. About 70 per cent of copper and uranium production takes place, and 50–80 per cent of all mineral resources targeted for extraction by mining companies are found, on indigenous peoples' lands and territories.<sup>7</sup> Efforts to accelerate the decarbonization of national economies is increasing pressure to extract rare earths, lithium, zinc and cobalt, among others.

#### 1. Large-scale mining

14. Large-scale mining releases massive amounts of toxics into the air, soil and water of indigenous lands and territories. Contamination comes from the projects' management and final disposal of solid and liquid wastes, use and release of chemical

<sup>3</sup> The submissions shared with the Special Rapporteur are available at [www.ohchr.org/en/calls-for-input/calls-input/call-input-impact-toxics-indigenous-peoples](http://www.ohchr.org/en/calls-for-input/calls-input/call-input-impact-toxics-indigenous-peoples).

<sup>4</sup> With the International Indian Treaty Council.

<sup>5</sup> See A/70/301.

<sup>6</sup> Submission from Cultural Survival.

<sup>7</sup> Abigail Anongos and others, *Pitfalls and Pipelines: Indigenous Peoples and Extractive Industries* (Tebtebba Foundation and International Work Group for Indigenous Affairs, 2012).

substances during the mineral processing, and air emissions.<sup>8</sup> Large-scale mining requires a substantial amount of water and produces high volumes of wastes, with hazardous substances including lead, arsenic, cadmium, mercury, chromium, cyanide and other pollutants that are neurotoxic and carcinogenic.

15. Open pits, mine tailings and waste piles are some of the largest sources of toxic pollutants contaminating the quality of the soil, air and water necessary for indigenous peoples' subsistence. Sulfide in ore deposits can give off acid mine drainage that leaches toxic substances from mines, with serious impacts on water quality. Acid drainage impairs the soil, air, water and land of indigenous peoples globally, from coal mining in Assam, northern India, to hard rock mining in Fort Belknap Reservation, United States of America.<sup>9</sup>

16. Mining often results in dust, which tarnishes the air and lungs of nearby indigenous peoples. Prolonged exposure to dust particles containing coal, silica and other fine powders can result in chronic lung and respiratory conditions.<sup>10</sup> In 2020, the Special Rapporteur expressed serious concern over the Cerrejón mine in La Guajira, Colombia, causing severe health effects on the Wayúu people.<sup>11</sup>

17. In many places, tailings remain unmanaged. The Banjima people in Australia suffer contamination from 3 million tons of uncontained tailings from closed asbestos mines.<sup>12</sup> Across various regions, mining companies are allowed to dispose of mining waste in the sea, and these mine tailings can contaminate with heavy metals fish stocks on which indigenous peoples depend.<sup>13</sup>

## 2. Small-scale gold mining

18. Artisanal and small-scale gold mining is the largest source of mercury pollution, with immediate and long-term effects on human health and the environment.<sup>14</sup> An estimated 10–15 million people were directly engaged in such mining in 2017, including an estimated 1 million child workers and 4.5 million women.<sup>15</sup> Mercury releases from such mining to land or water exceed 2,000 tons annually, and emissions to the atmosphere account for 37 per cent (838 tons annually) of global mercury emissions.<sup>16</sup> Mercury can damage the nervous, digestive and immune systems and the lungs, kidneys, skin and eyes.

19. Small-scale gold mining is often carried out without the free, prior and informed consent of indigenous peoples and without permits from the Government. In the Amazon, there are an estimated 4,472 extraction points across 20 rivers in conjunction with an increase in mercury imports.<sup>17</sup> The Plurinational State of Bolivia is becoming a regional hub for the illicit trafficking of mercury in the Amazon region and the mercury contamination affecting indigenous peoples.<sup>18</sup>

<sup>8</sup> Oluranti Agboola and others, "A review on the impact of mining operation: monitoring, assessment and management", *Results in Engineering*, vol. 8, December 2020.

<sup>9</sup> Submissions by the indigenous peoples of Mung-Dun-Sun-Kham, Assam, north-east India, and the Fort Belknap Indian Community.

<sup>10</sup> AL PHL 1/2019.

<sup>11</sup> AL COL 7/2020.

<sup>12</sup> Submission from Banjima Native Title Aboriginal Corporation.

<sup>13</sup> Minority Rights, "Norway: Saami communities contend with the latest form of discrimination – 'green colonialism'", 2020.

<sup>14</sup> See [A/HRC/51/35](#).

<sup>15</sup> United Nations Environment Programme (UNEP), Chemicals and Health Branch, *Global Mercury Supply, Trade and Demand* (Geneva, 2017).

<sup>16</sup> UNEP, Chemicals and Health Branch, *Global Mercury Assessment 2018* (Geneva, 2019).

<sup>17</sup> Submission from Fundación Gaia Amazonas.

<sup>18</sup> BOL 3/2021.

20. The effects of mercury contamination are widespread and intergenerational. Gold miners have poisoned indigenous people in places such as Guyana since the 1990s.<sup>19</sup> In Brazil, 90 per cent of the Yanomami population have highly hazardous levels of mercury in their bodies, with serious health effects.<sup>20</sup> In the Peruvian Amazon, over 180 tons of mercury end up in rivers each year, leading the Government to declare an emergency in the Madre de Dios region.<sup>21</sup> At times, indigenous peoples participate in small-scale gold mining, lacking information and awareness about its health and environmental effects.

### 3. Radioactive contamination: uranium mining

21. About 70 per cent of the uranium mined globally to fuel nuclear power is on indigenous peoples' lands.<sup>22</sup> Uranium is extracted through open pit, leach and hard rock mining, often requiring large quantities of water. This type of mining leads to the production of radioactive waste, which has an impact on the local environment and public health.<sup>23</sup> As the uranium is mined, it also releases hazardous radioactive radon gas.<sup>24</sup>

22. Radioactive contamination can be severe and permanent. Since the 1990s, indigenous nations living near abandoned uranium mines, such as the Navajo, have reported chronic health problems.<sup>25</sup> In the United States, 11 per cent of the 4,225 abandoned uranium mines are on indigenous lands.<sup>26</sup> Indigenous peoples near uranium mines in Mongolia expressed public concerns over uranium contamination, including congenital malformations and deformities.<sup>27</sup> The Special Rapporteur also expressed his concern about the damaging environmental and human rights consequences of potential uranium mining in southern Greenland.<sup>28</sup>

### 4. Tailings dam ruptures

23. The number of serious mine tailings dam failures grew significantly in the past decade.<sup>29</sup> Mine tailings laden with toxic chemicals are one of the largest sources of pollution in many mining projects. Rupture of these massive structures, used to store tailings indefinitely, releases a slew of toxic waste material and devastates surrounding indigenous peoples' lands. Improper management, materials and use of upstream dams increase instability and the likelihood of collapse and ensuing contamination.<sup>30</sup> For instance, indigenous people who depended on the Doce River in Brazil lost access to water, crop production and livelihoods, including fishing capacity, after the Mariana dam collapse.<sup>31</sup>

<sup>19</sup> Submission by the South Rupununi District Council.

<sup>20</sup> Submissions from Cultural Survival and from CETIM and Secoya.

<sup>21</sup> Submission from Federación Nativa del Río Madre de Dios y Afluentes (FENAMAD).

<sup>22</sup> Thorben Becker and others, *Uranium Atlas: Facts and Data about the Raw Material of the Atomic Age* (2020).

<sup>23</sup> Sierra Club, "The violence of nuclear energy against indigenous peoples, land, water and air", 2020.

<sup>24</sup> See <https://world-nuclear.org/information-library/nuclear-fuel-cycle/mining-of-uranium/uranium-mining-overview.aspx>.

<sup>25</sup> Johnnye Lewis, Joseph Hoover and Debra MacKenzie, "Mining and environmental health disparities in Native American communities", *Current Environmental Health Reports*, vol. 4, No. 2 (April 2017).

<sup>26</sup> Ibid.

<sup>27</sup> Submission by OT Watch Mongolia.

<sup>28</sup> AL DNK 2/2021.

<sup>29</sup> Earthworks and others, *Safety First: Guidelines for Responsible Mine Tailings Management* (2022).

<sup>30</sup> AL PNG 1/2020.

<sup>31</sup> See A/HRC/45/12/Add.2; AL BRA 11/2018.

## B. Oil and gas

24. Oil and gas companies continue to explore and exploit hydrocarbon deposits even as the planet faces a climate emergency. This invariably results from States promoting fossil fuel industries, often in indigenous peoples' lands and territories.

25. The case of Chevron/Texaco in the Ecuadorian Amazon is telling of the toxic impacts. The Huaorani, Cofán and other indigenous peoples lived in a pristine rainforest environment prior to the arrival of Texaco (later acquired by Chevron) in the 1960s. The Texaco/Petroecuador project extracted oil without regard to the protection of the environment and the rights of affected indigenous peoples. Consequently, oil operations had a severe impact on indigenous peoples' traditional lands and their physical and cultural integrity. Indigenous peoples received no reparation for these human rights violations.

### 1. Exploration

26. Offshore oil and gas exploration can decimate subsistence hunting for indigenous peoples. To create patterns on the ocean floor to be mapped for drilling, seismic testing uses explosives, which create deafening echoes. These activities cause hearing loss and change migration patterns in marine mammals on which indigenous people rely for food.<sup>32</sup>

27. Inland seismic testing can equally devastate indigenous peoples' lives. In 2012, the Inter-American Court of Human Rights held Ecuador responsible for the violation of several protected rights of the Kichwa indigenous people of Sarayaku, after it allowed a private oil company to conduct seismic surveys without prior consultations or consent. The Sarayaku declared a state of emergency, given the risks of high-power explosives introduced in their territory, which impeded their economic activities and depleted their food sources.<sup>33</sup>

### 2. Exploitation

28. Oil extraction releases massive amounts of hazardous substances into rivers and soils, with devastating impacts on indigenous peoples. Oil and gas drilling uses fluids with high concentrations of barium, emulsifiers, and variable amounts of polycyclic aromatic hydrocarbons, which seep into the land and into the ecosystems. These substances can cause cancer and cardiovascular disease.<sup>34</sup> Fracking and tar sands exploitation also generate carcinogenic toxic pollutants such as heavy metals and polycyclic aromatic substances that are released into surface and groundwater.<sup>35</sup>

29. Oil and gas extraction releases high amounts of so-called "produced water" – contaminated water that leaves oil wells during extraction. Produced water is composed of a hazardous mixture that may contain hydrocarbons, heavy metals, salts and natural occurring radioactive material, which may be carcinogenic.<sup>36</sup> Even when reinjected into the subsoil, wells are often defective, spreading contamination to groundwater, fish and other aquatic species.

<sup>32</sup> Annette L. Bickford, "Drivers of climate change: seismic testing and human security in Nunavut", April 2017.

<sup>33</sup> Inter-American Court of Human Rights, *Kichwa Indigenous People of Sarayaku v. Ecuador*, Judgment, 27 June 2012.

<sup>34</sup> Manthar Ali Mallah and others, "Polycyclic aromatic hydrocarbon and its effects on health: an overview", *Chemosphere*, vol. 296, June 2022.

<sup>35</sup> Clinton N. Westman and Tara L. Joly, "Oil sands extraction in Alberta, Canada: a review of impacts and processes concerning indigenous peoples", *Human Ecology*, vol. 47, No. 2 (April 2019); see [www.biologicaldiversity.org/campaigns/fracking/](http://www.biologicaldiversity.org/campaigns/fracking/).

<sup>36</sup> See [www.nrdc.org/sites/default/files/fracking-drinking-water-fs.pdf](http://www.nrdc.org/sites/default/files/fracking-drinking-water-fs.pdf).

30. Effluents and liquid wastes of oil and gas operations are often stored in open pits. Even when companies use plastic liners, these liners tend to overflow and leak, releasing oil and grease and contaminating the water and food sources on which indigenous peoples rely for subsistence. Effluents and liquid wastes are also kept in underground storage tanks, which nevertheless corrode or overflow, contaminating soils and water streams.

31. Gas flaring, which is the burning of gas generated during extraction processes, generates constant air pollution. Flaring releases several hazardous pollutants that can include benzene, formaldehyde, polycyclic aromatic hydrocarbons, acetaldehyde, toluene, xylenes and more.<sup>37</sup> Gas flaring can cause reproductive abnormalities, asthma and cancer.<sup>38</sup>

32. The abandonment of oil fields without proper removal of the infrastructure used to exploit oil causes harm to the surrounding environment as these structures erode. In its environmental assessment of Ogoniland, Nigeria, in 2011, the United Nations Environment Programme concluded that the pollution that resulted in some areas amounted to “total environmental devastation”, ended or displaced the Ogoni people’s fishing activities and polluted groundwater with benzene in amounts unacceptable under World Health Organization standards, among other negative impacts.<sup>39</sup> The Ogoni people report little to no effective environmental remediation even a decade later.<sup>40</sup>

### 3. Oil spills and contaminated sites

33. Oil spills are frequent and devastating. Aromatic carcinogenic substances from oil spills can remain in the water and sediments of streams for long periods of time, increasing exposure to toxic substances. Alaska is reportedly approaching 10,000 oil spills in 40 years from oil exploration and exploitation near Nuiqsut indigenous lands, spilling 3.8 million gallons of oil and hazardous material.<sup>41</sup>

34. In 2015, the Peruvian environmental agency identified nearly 2,000 contaminated sites in oil block 192 that affect Amazonian Quechua, Kichwa and Achuar peoples and that have not been remediated.<sup>42</sup> In Peru, 41 of 65 indigenous groups have been affected by oil extractions; from 2015 to 2019, they faced more than 100 oil spills.<sup>43</sup>

35. Much of marine shipping uses heavy fuel oil, which is particularly dense, viscous oil that is persistent when spilled, smothering marine mammals and birds.<sup>44</sup> Coastal and Arctic indigenous peoples are threatened by their reliance on these animals and proximity to these toxics.<sup>45</sup> Heavy fuel oil also produces high levels of

<sup>37</sup> See [https://earthworks.org/issues/flaring\\_and\\_venting/](https://earthworks.org/issues/flaring_and_venting/).

<sup>38</sup> Okhumode H. Yakubu, “Addressing environmental health problems in Ogoniland through implementation of United Nations Environment Programme recommendations: environmental management strategies”, *Environments*, vol. 4, No. 2 (March 2017).

<sup>39</sup> UNEP, *Environmental Assessment of Ogoniland* (Nairobi, 2011).

<sup>40</sup> Information from consultation focusing on indigenous peoples in Africa and the Scandinavian and Greenland Arctic on 19 May 2022.

<sup>41</sup> Submission from Earthjustice Alaska.

<sup>42</sup> AL PER 3/2021.

<sup>43</sup> Aymara León and Mario Zúñiga, *The Shadow of Oil: A Report on Oil Spills in the Peruvian Amazon from 2000 to 2019* (Lima, Oxfam, 2021).

<sup>44</sup> United States, National Oceanic and Atmospheric Administration, “Heavy fuel oil spills”, August 2019.

<sup>45</sup> AL AUS 5/2020.



black carbon, known to lead to premature death, which absorbs so much sunlight that it melts snow and ice, particularly threatening Arctic indigenous lands and territories.<sup>46</sup>

## C. Pesticides

36. In various countries, agribusinesses are taking over indigenous peoples' lands and cultivating a pesticide-dependent agriculture. As a result, indigenous peoples may be forced to live alongside such farms, regularly exposing them to hazardous pesticides. Furthermore, countries that have banned or have old stocks of highly toxic pesticides allow local production for export.<sup>47</sup>

37. Indigenous people who produce crops on a small scale with the use of pesticides may have a general knowledge of crop protection but often are unaware of pesticides' health effects and methods of exposure. Because of this gap in knowledge, incidents involving the misuse of these chemicals led to acute and chronic exposures to pesticides among indigenous people in western Australia.<sup>48</sup>

38. In addition, stocks of obsolete pesticides, including organochlorine and organophosphate pesticides, often lack proper inventory and are stored in inappropriate conditions, contaminating and deteriorating containers and causing leakage.<sup>49</sup> The lack of a legal framework and institutional capacity in many countries to address this problem has heightened its harmful effects on indigenous peoples.<sup>50</sup>

### 1. Monocrops

39. Pesticide use has been linked to large-scale monocultures which supply most of the world's agro-industrial staples.<sup>51</sup> Monocultures increase risks of disease and pests, resulting in farmers' increased use of pesticides and herbicides.<sup>52</sup> The pests then become resistant to the pesticides, which further increases pesticide use, creating a toxic cycle. In El Salvador, it appears that contamination from unregulated agrochemicals, intensive irrigation, and the expansion of sugar cane monocultures are contributing to the alarming number of chronic kidney disease cases and water shortages.<sup>53</sup>

### 2. Aerial fumigation

40. Aerial fumigation indiscriminately spreads toxic substances on crops and waters on which indigenous peoples depend for material and spiritual sustenance. Pesticide dust or droplets drift through the air and harm non-target crops, as well as soils, waters, vegetation and wildlife.<sup>54</sup>

41. Indigenous peoples and others in Brazil allege that agribusinesses intentionally sprayed pesticides on their crops and houses like "chemical weapons" to drive them from their lands for farmers and ranchers to use.<sup>55</sup>

<sup>46</sup> Submission from Clean Arctic Alliance.

<sup>47</sup> OL OTH 202/2021 and OL OTH 203/2021.

<sup>48</sup> Submission from Nulungu Research Institute and the University of Notre Dame Australia.

<sup>49</sup> See UNEP/CHW.15/INF/50.

<sup>50</sup> Conference of the Parties to the Basel Convention, fifteenth meeting, decision (CRP.22).

<sup>51</sup> Allison Balogh, "The rise and fall of monoculture farming", *Horizon*, 13 December 2021.

<sup>52</sup> Beyond Pesticides, "Multi-crop (mixed culture) farming practices promote more fruitful farmland than single-crop (monoculture)", 15 July 2021.

<sup>53</sup> Submission from the Office of the Human Rights Advocate (Procuraduría para la Defensa de los Derechos Humanos) of El Salvador.

<sup>54</sup> Submission from Martina Mutizábal and Dasten Julián Vejar; see <http://npic.orst.edu/reg/drift.html>.

<sup>55</sup> AL BRA 6/2022 and AL BRA 8/2022.

42. For decades, indigenous peoples in Colombia raised concerns about the massive aerial spraying of glyphosate formulations to eradicate illicit coca crops.<sup>56</sup> In its recent report, the Truth Commission in Colombia, established pursuant to the 2016 peace agreement, calls for a definitive end to glyphosate spraying.<sup>57</sup>

43. The Yaqui people advocated in Mexico and in international mechanisms to ban aerial fumigation on the basis of documented impacts on reproductive and intergenerational health, including birth defects, leukaemia and other childhood cancers.<sup>58</sup> In response, the Committee on the Elimination of Racial Discrimination recommended to the United States to take measures to prevent the transboundary effects of pesticides used in aerial fumigation, to no avail.<sup>59</sup>

#### **D. Hazardous waste dumping**

44. Hazardous waste dumping leaves indigenous people with decades-long health and psychological trauma. The toxic effects extend well beyond the area in which waste is dumped. Burning waste contaminates the air and generates pollutants harmful to human and animal life.<sup>60</sup> Each year, 11 million tons of plastic waste are dumped into oceans.<sup>61</sup> Marine litter and plastic pollution cause the leaching of toxic chemicals into water streams; and persistent pollutants capable of long-range transport hitch on currents and travel to the Arctic, affecting indigenous peoples in the region.<sup>62</sup>

45. The outcries of harm done to indigenous peoples are often ignored. For instance, the Yami people on Orchid Island, Taiwan Province of China, have fought for decades to remove 100,000 barrels of nuclear waste placed there without their free, prior and informed consent, yet the Taiwan Province of China has still not removed the waste.<sup>63</sup> The Kanien'kehá:ka community of Kanehsatà:ke, Canada, continue to fight for containment of a toxic waste dump operating without a permit next to the community and contaminating water systems.<sup>64</sup>

#### **E. Military activities**

46. Around the world, militarization inflicts environmental violence on the lands of indigenous peoples. Military bases are constructed on indigenous peoples' land without their consent and often force their displacement. Once abandoned, these military sites leave a tragic remnant of contamination, filling these lands with hazardous and nuclear wastes affecting indigenous peoples for generations.

47. Abandoned military facilities reportedly leave materials including fuels, polychlorinated biphenyls, metals from heavy equipment, energy generators, oil containers and even radioactive waste buried on site.<sup>65</sup> Leftover fuels, solvents and

<sup>56</sup> UA COL 13/2020 and OL COL 4/2021.

<sup>57</sup> Colombia, Final report of the Commission for the Clarification of Truth, Coexistence and Non-Repetition, 28 June 2022.

<sup>58</sup> Submissions from the Government of Mexico and the Hunkpati Dakota and Yaqui Nations.

<sup>59</sup> Submission from Hunkpati Dakota and Yaqui Nations.

<sup>60</sup> Navarro Ferronato and Vincenzo Torretta, "Waste mismanagement in developing countries: a review of global issues", *International Journal of Environmental Research and Public Health*, vol. 16, No. 6 (March 2019).

<sup>61</sup> See [www.pewtrusts.org/en/trust/archive/fall-2020/confronting-ocean-plastic-pollution](https://www.pewtrusts.org/en/trust/archive/fall-2020/confronting-ocean-plastic-pollution).

<sup>62</sup> Submissions from Centre de recherche du CHU de Québec-Université Laval and Environment and Climate Change Canada.

<sup>63</sup> See <https://beyondthebomb.org/a-nuclear-war-on-orchid-island/>.

<sup>64</sup> Submission from the Kanien'kehá:ka community of Kanehsatà:ke.

<sup>65</sup> Hanford Site contains 177 tanks with 56 million gallons of liquid wastes, of which 67 may have leaks. See Allison Macfarlane, "'Incidental' nuclear waste: reconceiving a problem won't make it go away", *Bulletin of the Atomic Scientists*, 31 January 2019.

other organic chemicals can permeate the soil and travel long distances.<sup>66</sup> The Government often does not disclose information on the extent, location and type of waste or provide complete risk assessments to affected indigenous peoples.

48. These military projects often occur on islands or in remote locations where water systems are interconnected, threatening the entire region. Stored fuel leaked over 2,000 gallons of petroleum at Kapūkakī (Red Hill), contaminating the water of Native Hawaiians nearby.<sup>67</sup> Oil spills in the area are chronic, leaking oil at a rate of 5,000 tons per year, threatening the water supply of the entire island of Oahu.<sup>68</sup> Debris from nuclear weapons testing and storage of hazardous chemicals and weapons threaten the Chamorro indigenous people and Guam's sole source aquifer.<sup>69</sup>

49. Equally concerning is the continued detection of per- and polyfluoroalkyl substances, also known as “forever chemicals” because they resist decomposition in the environment and human body. Accidents, leaks, training and disposal have reportedly led to per- and polyfluoroalkyl substances contamination from United States and Japanese bases on the Ryuku Islands in Japan up to 1,600 times the national standard.<sup>70</sup>

50. Arctic indigenous peoples also face compounding threats from the thawing of permafrost encapsulating layers of toxics underneath. Tons of toxic waste at Camp Century, including polychlorinated biphenyls and radioactive material, beneath the north-western Greenland ice sheet could be exposed owing to climate change and thawing ice.<sup>71</sup>

### III. Impact of toxics on the rights of indigenous peoples

51. To satisfy the expansion of a global economy addicted to fossil fuels and resource extraction, States and businesses step into remote regions searching for metals, minerals and hydrocarbons, leaving a legacy of pollution and dumping of hazardous substances. Exposure to such toxics imposes a heavy toll on the physical integrity and other rights of indigenous peoples.

52. In many parts of the world, State sovereignty and effective control over territory are but fictional principles, since the capability of the State to effectively regulate fossil fuel and extractive industries and to guarantee the effective protection of rights is an illusion. In many other parts, States use these principles to attempt to legitimize the extraction of natural resources found in indigenous peoples' lands and territories, despite the widespread violation of the rights of indigenous peoples.

#### A. Free, prior and informed consent

53. Indigenous peoples are systematically denied their right to free, prior and informed consent. As the Special Rapporteur on the rights of indigenous peoples highlighted, by denying free, prior and informed consent, indigenous peoples'

<sup>66</sup> Submission from Alaska Community Action on Toxics.

<sup>67</sup> Submission from Global Indigenous Youth Caucus.

<sup>68</sup> Information from consultation focusing on indigenous peoples in Asia, the Pacific and the Russian Federation on 18 May 2022.

<sup>69</sup> AL USA 7/2021.

<sup>70</sup> Submission by the Association of Comprehensive Studies for Independence of the Lew Chewans.

<sup>71</sup> William Colgan and others, “The abandoned ice sheet base at Camp Century, Greenland, in a warming climate”, *Geophysical Research Letters*, vol. 43, No. 15 (August 2016).

autonomy and right to self-determination are sacrificed for national and economic interests, disregarding their safety and well-being.<sup>72</sup>

54. The free, prior and informed consent process rests on good-faith engagement and respect for indigenous people's decisions.<sup>73</sup> This includes engaging with indigenous peoples' representative institutions, abiding by consultation protocols mutually agreed upon, and giving effect to agreed outcomes. These elements form the basis of respect for indigenous peoples' rights to autonomy and self-determination as cornerstones of the right to free, prior and informed consent. At times, even when engagement and consultations exist, they do not occur prior to the start of development projects or continue throughout the various steps of development.

55. The free, prior and informed consent process involves the duty to provide comprehensive and culturally understandable information. However, information presented to indigenous peoples is often limited or inaccessible. Environmental impact assessments are often unavailable to indigenous peoples before consultations, and in too many instances, States do not provide the technical services to indigenous peoples needed to fully understand the information in the environmental assessments.<sup>74</sup> The mining company Nor Nickel, which hosts its main operation in Norilsk, Russian Federation, one of the world's most polluted cities, eventually initiated a free, prior and informed consent procedure with indigenous people but instead imposed its own protocols.<sup>75</sup>

56. The right to free, prior and informed consent is a right that enables and relates to several other rights, such as the rights to information, science, land, access to justice, meaningful participation and a clean, healthy and sustainable environment. In that regard, such consent is a critical safeguard of the rights of indigenous peoples, which may be compromised as a result of exposure to toxics. At the same time, and especially given that atmospheric and ocean currents transport toxics for long distances into indigenous peoples' territories, respect for free, prior and informed consent does not exhaust the duties of protection for indigenous peoples' rights.

## **B. Information, access to justice and science**

57. States and businesses often do not guarantee indigenous peoples access to information and science on the toxic impacts of activities on or near their lands and territories. Information is often available only through the Internet and in a limited number of languages. In other circumstances, States flatly deny providing information related to toxics' impact on indigenous peoples. There are also structural issues that contribute to indigenous peoples' lack of information, such as many indigenous people living in poverty and lacking the technical resources or level of education to understand specialized information about toxics' impacts and their implications.

58. Lack of information compounds the challenges that indigenous people face to accessing justice for human rights violations. Indigenous peoples are often excluded from international accountability mechanisms and domestic legal systems owing to language and cultural barriers, remote locations and a lack of economic resources to get specialized legal defence. States rarely seek out indigenous knowledge and often deny the use of indigenous justice systems, so indigenous peoples must use their limited resources to advocate for themselves.

<sup>72</sup> [A/HRC/12/34](#), paras. 41–42 and 54–57.

<sup>73</sup> [A/HRC/45/34](#), sect. IV.

<sup>74</sup> Submission from the Government of Honduras.

<sup>75</sup> International Work Group for Indigenous Affairs, *The Indigenous World 2022* (2022), pp. 543–544.

59. The Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazú Agreement) and the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention) provide avenues and opportunities for indigenous participation in environmental decision-making, including on chemicals and wastes. The Escazú Agreement, for example, provides that each party shall guarantee that indigenous peoples receive assistance in preparing their requests for information and obtain a response.<sup>76</sup>

60. Research and science on the environmental impacts of toxics specific to indigenous peoples are limited. In addition, to provide culturally specific solutions and preventative measures for toxic exposure, both science and indigenous knowledge have roles to play.<sup>77</sup> When Governments conduct audits or perform surveys, they often do not make them public. For instance, the Guji people in Ethiopia continue to demand that the Government make public a report demonstrating the health and environmental impacts of the Lega Dembi gold mine.<sup>78</sup>

### C. Culture, land and natural resources

61. Toxic exposure from dumping or industrial releases is a form of violence against indigenous peoples. Owing to the spiritual and material bonds between their culture, lands and natural resources, severing the connection of indigenous peoples to their land threatens the survival of indigenous cultures and languages.

62. Contamination with hazardous substances interferes with indigenous peoples' right to self-determination, by virtue of which they freely pursue their economic, social and cultural development. Moreover, environmental degradation and displacement of indigenous peoples have a direct impact on their cultural practices, which are often intimately tied to their land. States should recognize indigenous rights to land, including areas used by indigenous peoples for spiritual, medicinal or other traditional practices.

63. In the case of the Ava Guaraní indigenous people of Campo Agua'e in eastern Paraguay, the Human Rights Committee recognized that the failure to prevent pesticide contamination of indigenous lands and territories is also an attack against indigenous culture and traditions.<sup>79</sup> In reaching its decision, the Committee relied on the United Nations Declaration on the Rights of Indigenous Peoples to interpret the International Covenant on Civil and Political Rights, which gives further normative strength to said Declaration.

64. Critical to the rights to culture, land and natural resources in cases of violations is the right to redress, including remediation, restitution and return of lands, territories and resources.<sup>80</sup>

<sup>76</sup> Art. 5 (3) and (4).

<sup>77</sup> [A/HRC/48/61](#), para. 19.

<sup>78</sup> Submission from the Development by Unity and Brotherly Action for the Future and the Center for International Human Rights of Northwestern University Pritzker School of Law.

<sup>79</sup> CCPR/C/132/D/2552/2015, para. 8.5.

<sup>80</sup> United Nations Declaration on the Rights of Indigenous Peoples, art. 28; see also Committee on the Elimination of Racial Discrimination, general recommendation No. 23 (1997) on the rights of indigenous peoples.

## D. Life, health and personal integrity

65. Exposure to toxics presents short- and long-term effects on the life and health of indigenous peoples. Exposure to toxics is an assault on personal integrity. Even in small amounts, mercury, cadmium, lead and arsenic may cause serious health problems and are a threat to reproductive health and the development of infants.<sup>81</sup> In the long term, the presence of toxics on or near indigenous land has caused intellectual and other disabilities that may undermine the ability of indigenous peoples to pass along culture and traditions.

66. Indigenous peoples living close to mines are more vulnerable to respiratory diseases. Exposure to particulate matter is associated with premature death and high morbidity from cardiopulmonary diseases. Radioactive wastes increase the risk of cancer, birth defects and mortality levels. Pathways of exposure also include inhalation of radioactive particulates and exposure to gamma radiation, both of which increase the risk of cancer.

67. Contamination of food and water supplies results in toxic exposure up the food chain, leading to immune suppression, hormone disruption and cancer, among other serious health conditions. These traumas can also cause serious mental health issues, including anxiety, loss of identity and loss of hope. Indigenous peoples' attempts to defend themselves against these incursions often result in violence against them.<sup>82</sup>

68. Toxic agrochemicals have had particularly negative impacts on the human rights of indigenous peoples. Many pesticides bioaccumulate, increasing the risk of exposure through food sources. Bioaccumulation is known to have caused harmful effects including to endocrine and reproductive functions, cancer, accidental poisonings and death. Exposure to pesticides has also caused miscarriages, preterm delivery and birth defects.<sup>83</sup>

69. Articles 6 and 9 of the International Covenant on Civil and Political Rights recognize the right to life and physical integrity, respectively. Accordingly, States have the duty to ensure and guarantee the right to a non-toxic environment for indigenous peoples.

70. Article 12 of the International Covenant on Economic, Social and Cultural Rights recognizes the right of everyone to the enjoyment of the "highest attainable standard of physical and mental health". In its general comment No. 14 (2000), the Committee on Economic, Social and Cultural Rights explains that the "right to health embraces a wide range of socioeconomic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health".<sup>84</sup>

71. The right to health includes access to timely and accessible health care for the specific health impacts of toxics. This calls for integrating modern medicine with indigenous medicinal practices and traditional knowledge.<sup>85</sup> Yet access to adequate health care is often lacking, and contamination in indigenous territories results in untreated chronic health conditions.

<sup>81</sup> World Health Organization, "Mercury and health", 31 March 2017; and Peter Massányi and others, "Effects of cadmium, lead, and mercury on the structure and function of reproductive organs", *Toxics*, vol. 8, No. 4 (December 2020), available at [www.ncbi.nlm.nih.gov/pmc/articles/PMC7711607/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC7711607/).

<sup>82</sup> AL BRA 3/2021, AL CHN 11/2018, AL ECU 3/2018 and AL MEX 7/2018.

<sup>83</sup> See A/HRC/34/48.

<sup>84</sup> Committee on Economic, Social and Cultural Rights, general comment No. 14 (2000), para. 4.

<sup>85</sup> See submission from the Government of Guatemala.

## E. Food, water and a clean and healthy environment

72. Toxic impacts on vegetation and wildlife reduce biodiversity and affect indigenous peoples' water, food and medicinal sources.

73. Indigenous peoples rely on natural resources for their subsistence economies and therefore depend on natural water sources for drinking, eating and other traditional or domestic practices. However, toxic contamination impairs waters, spreading disease and death on the land and its people.<sup>86</sup>

74. Mining alone results in hundreds of millions of wastes each year that contaminate vital water sources.<sup>87</sup> Similarly, pollution from oil and gas drilling has a severe impact on freshwater quality. Contamination increases the risk of exposure to polycyclic aromatic hydrocarbons and heavy metals such as nickel and lead for indigenous peoples who depend on rivers and streams as their main source of water supply.<sup>88</sup> Produced water in oil and gas reservoirs, contaminated water that leaves oil wells during extraction, can pollute rivers used by wildlife and indigenous peoples with high levels of heavy metals.<sup>89</sup> The rupture of mine tailings dams has long-lasting effects on food and water sources. Indigenous peoples lose access to water, crop production and livelihoods, including fishing capacity.<sup>90</sup>

75. According to general comment No. 12 (1999) of the Committee on Economic, Social and Cultural Rights, the right to adequate food requires "the availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture". Furthermore, availability requires productive land or other natural resources without contamination.

76. Blatant failures to protect indigenous people's right to food exist throughout various industries. Many toxics can spread contamination through food webs that often include wildlife species consumed by indigenous peoples. Indigenous people suffer from above-average rates of cancer and other diseases from pesticides in their food sources.<sup>91</sup> Small-scale gold mining activities around the world spread mercury in water systems and contaminate fish stocks of indigenous peoples. Radioactive contamination from uranium can affect livestock, such as cattle, and make its way into cow's milk and meat for consumption.

77. Traditional food sources of indigenous peoples are regularly found to contain high levels of harmful chemicals. As persistent organic pollutants travel northward through long-range environmental transport via wind and water currents, indigenous peoples in the Arctic have been disproportionately affected. Persistent organic pollutants from materials left at abandoned military facilities can also bioaccumulate in the food chain and expose indigenous peoples to toxics.<sup>92</sup>

78. Companies and States often destroy the vegetation and wildlife on and around indigenous lands and territories. Extractive industries and agrochemicals contaminate the air, soil, water and food chain with toxics.<sup>93</sup> Toxic chemicals and hazardous waste

<sup>86</sup> [A/HRC/36/46/Add.1](#), sect. IV.C.2.

<sup>87</sup> Anongos and others, *Pitfalls and Pipelines*.

<sup>88</sup> Submission by Red Eclesial Panamazónica (REPAM).

<sup>89</sup> Raúl Yusta-García and others, "Water contamination from oil extraction activities in Northern Peruvian Amazonian rivers", *Environmental Pollution*, vol. 225, June 2017.

<sup>90</sup> Submission from Franciscans International.

<sup>91</sup> See [A/HRC/34/48](#).

<sup>92</sup> World Health Organization, *Health Risks of Persistent Organic Pollutants from Long-Range Transboundary Air Pollution* (2003).

<sup>93</sup> *Ibid.*



degrade indigenous land and their role as protectors of most of the world's biodiversity.<sup>94</sup>

79. The right to live in a non-toxic environment is one of the elements of the right to a clean, healthy and sustainable environment.<sup>95</sup> In 2021, the Human Rights Council recognized this right, acknowledging that indigenous peoples experience the violence against their environment more acutely. Recently, the General Assembly also recognized this right.<sup>96</sup>

80. The right to a clean, healthy and sustainable environment is a stand-alone right that derives from the rights to life, physical integrity, health and an adequate standard of living. Its content can be found in the acquis of human rights and environmental jurisprudence and doctrine developed over the past three decades. Accordingly, the right encompasses procedural elements, including information, participation and justice, and substantive elements, including clean air, safe and sufficient water, healthy and sustainably produced food, healthy biodiversity and ecosystems, non-toxic environments and a safe climate.<sup>97</sup> Its content is also illuminated by the right to science and the imperative to confront environmental threats that impair the realization of human rights of present and future generations. The right to a healthy environment may require immediate protections, as when physical integrity is assaulted by exposure to toxics. Furthermore, progressive realization of the right requires strengthening institutions, norms, policies and measures, such as when Governments support agroecological practices and markets.

## IV. Impacts on indigenous peoples in vulnerable situations

81. As a result of a history of dispossession of their lands and discrimination in the exercise of political and other rights, indigenous peoples are today particularly vulnerable to external forces that encroach on their lands and territories. These forces include a military complex and extractive, fossil and agricultural industries that seek to control and profit from natural resource exploitation. The technologies applied by these industries invariably release toxic chemicals to the environment. The ways in which these toxics have an impact on indigenous peoples depend on intersecting vulnerabilities.

### A. Indigenous peoples in isolation

82. Indigenous peoples in isolation face devastating impacts from toxics because they are fully integrated with, and dependent on, their environment for their health, material and spiritual well-being, and development. The contamination of rivers that cross the territories of indigenous peoples in isolation, caused by the use of mercury in small-scale gold mining, is particularly insidious, as the liquid metal is otherwise invisible, and the affected peoples do not have knowledge of what causes their ills. Indigenous peoples in isolation do not have access to health-care systems other than their traditional practices, which may nevertheless be impaired by toxic contaminants in food sources and medicinal plants. Forced contact has been catastrophic for indigenous peoples lacking immune systems able to withstand germs carried by outsiders.<sup>98</sup>

<sup>94</sup> See [www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect](https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect).

<sup>95</sup> See A/HRC/49/53.

<sup>96</sup> See General Assembly resolution 76/300.

<sup>97</sup> See A/HRC/43/53.

<sup>98</sup> Esteban Ortiz-Prado and others, "Avoiding extinction: the importance of protecting isolated Indigenous tribes", *AlterNative: An International Journal of Indigenous Peoples*, vol. 17, No. 1 (March 2021).



## B. Indigenous persons with disabilities<sup>99</sup>

83. Toxic exposure can cause disabilities in indigenous persons, including loss of IQ, physical malformations, and other serious conditions. Disabilities can affect the individual's ability to procure means of subsistence. Disabilities can also affect the community's ability to pass on traditional knowledge across generations. Indigenous persons with disabilities prior to contamination can feel compounding effects of additional health conditions. States fail to address disability rights for indigenous people by forcing individuals with disabilities to travel to non-indigenous lands for resources and health care.<sup>100</sup> In many cases, indigenous peoples are impoverished and have limited resources to provide for the care and upbringing of children with disabilities.

84. The preamble to the Convention on the Rights of Persons with Disabilities recognizes the difficult conditions faced by persons with disabilities who are subject to multiple or aggravated forms of discrimination, including on the basis of indigenous origin. Indigenous persons with disabilities must deal with multiple forms of discrimination and barriers related to their multiple identities, which increase their challenges with employment, access to health and disability services, and social deprivation. Toxic contamination and its impacts on their bodies, lands and resources further aggravate these conditions and situations.<sup>101</sup>

## C. Indigenous women

85. Exposure to toxics is a form of environmental violence against women and girls. For many indigenous peoples, women play a key role as gatherers, producers and stewards of specific cultural practices. These roles put them in contact with the land that may be contaminated by heavy metals, pesticides and other toxics. Women also on average have a higher percentage of body fat, which is how some toxic substances are absorbed into the human body. This aggravates the risks of contamination and serious health conditions.<sup>102</sup> These disproportionate effects can pull indigenous women into cycles of poverty and exposure to gender-based violence.<sup>103</sup>

86. In addition, studies and experiences from indigenous peoples continually show the detrimental impacts of toxics on pregnancies and births. Contamination leads to increases in stillbirths, miscarriages, low-birth-weight babies and passing toxicity through the bloodstream. Shoalwater women in Washington State, United States, began experiencing miscarriages as a result of endocrine disruptors found in pesticides and herbicides sprayed on nearby cranberry plantations.<sup>104</sup> In the Amazon,

<sup>99</sup> Many indigenous peoples do not use the term disability in describing differences in abilities, seeing impairments as natural and unique, and descriptions of disability issues instead explore the oppression and assimilation forced upon indigenous peoples within States. See Minerva C. Rivas Velarde, *Indigenous Persons with Disabilities: Access to Training and Employment* (Geneva, International Labour Organization (ILO), 2015).

<sup>100</sup> Information from consultation focusing on indigenous peoples in the Americas, the Caribbean and the Alaska and Canadian Arctic on 17 May 2022.

<sup>101</sup> Rivas Velarde, *Indigenous Persons with Disabilities*.

<sup>102</sup> Andrea Carmen and Viola Waghii, "Indigenous women and environmental violence", paper submitted to the Permanent Forum on Indigenous Issues expert group meeting on the theme "Combating violence against indigenous women and girls", 2012.

<sup>103</sup> See [A/HRC/50/26](#).

<sup>104</sup> Nancy Langston, "Toxic inequities: chemical exposures and indigenous communities in Canada and the United States", *Natural Resources Journal*, vol. 50, No. 2 (2010).

there have been cases where indigenous women were blamed for their babies' malformations and expelled from their communities.<sup>105</sup>

## **D. Indigenous children**

87. Indigenous children, like other children, are more sensitive to toxics, owing to the growth and development of their bodies, including their endocrine and immune systems.<sup>106</sup> The increase of disabilities can impair learning languages and cultural traditions or create mobility and health concerns that reduce involvement in daily routines. Reduction in the birth of indigenous children risks nothing less than the survival of indigenous peoples.

## **E. Indigenous older persons**

88. Older persons are particularly vulnerable to health challenges and suffer mental anguish from displacement caused by the contamination of the land. Challenges in passing on knowledge and understanding at the heart of indigenous cultures, traditions and languages can further aggravate the feelings of despair and identity loss. A healthy environment is vital for the realization of the rights of older persons.

## **V. International instruments relevant to toxics and indigenous rights**

89. The international normative framework on chemicals and wastes has yet to explicitly embrace and articulate an integrated and holistic human rights-based approach. This shortcoming limits indigenous peoples' enjoyment of human rights. It also exacerbates the gaps in protections of human health and the environment that have resulted from the fragmented and ad hoc development of this framework over the past four decades.

90. In addition, the Sustainable Development Goals call for the increased protection of food, water and health, all of which are threatened by toxic violence against indigenous peoples.

91. The international meeting entitled "Stockholm+50: a healthy planet for the prosperity of all – our responsibility, our opportunity" focused on ways to accelerate action towards a healthy planet. At the meeting, Member States and stakeholders recommended strengthening national implementation of agreements by drawing on "insights and expertise from indigenous and traditional knowledge" and called for strengthened cooperation and solidarity, including through indigenous peoples' participation in policy formulation and implementation.<sup>107</sup> Indigenous knowledge and values can contribute to reversing environmental degradation and shift the tide towards sustainability.<sup>108</sup>

## **A. Multilateral agreements on chemicals and wastes**

92. While multilateral environmental agreements on chemicals and wastes share a common goal to protect the environment and human health, they have yet to embrace

<sup>105</sup> Information from consultations with FENAMAD on 3 June 2022.

<sup>106</sup> UNEP, "Young and old, air pollution affects the most vulnerable", 16 October 2018.

<sup>107</sup> Presidents' final remarks to the plenary.

<sup>108</sup> See [www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect](https://www.unep.org/news-and-stories/story/indigenous-peoples-and-nature-they-protect).

an integrated human rights-based approach. This may result in the exclusion of indigenous peoples from decision-making on chemicals and wastes. Indigenous peoples also lack full access to accountability mechanisms such as compliance committees to voice grievances and seek enforcement of these agreements, in contrast to the Aarhus Convention, the Escazú Agreement and other agreements.

93. Instruments on chemicals and wastes have started to work on vulnerable groups, but this work has yet to focus on indigenous peoples.<sup>109</sup> Some States, however, limit the definition of “indigenous”,<sup>110</sup> or lump indigenous people with “local communities”, to limit the land and other rights of indigenous peoples.<sup>111</sup> In addition, States lack specific guidelines on implementing these agreements when they affect indigenous peoples and their lands.

94. The United Nations Declaration on the Rights of Indigenous Peoples could help to address these shortcomings by illuminating the interpretation of the chemicals and wastes conventions.

## 1. Minamata Convention on Mercury

95. The Minamata Convention on Mercury regulates activities resulting in the release of mercury to protect human health and the environment. In the preamble to the Minamata Convention, the parties to the Convention take note of “the particular vulnerabilities of Arctic ecosystems and indigenous communities because of the biomagnification of mercury and contamination of traditional foods, ... concerned about indigenous communities more generally with respect to the effects of mercury”.

96. The Minamata Convention is hindered by critical shortcomings on small-scale gold mining, which is by far the largest, and an increasing, source of emissions and releases of mercury into the environment.<sup>112</sup> A major gap is that the Convention allows the use of mercury in small-scale gold mining.<sup>113</sup> Another gap is that the Convention allows primary mercury mining to continue for up to 15 years from its entry into force in 2017. Yet another is the Convention’s failure to prohibit international trade in mercury for small-scale gold mining.

97. These weaknesses not only undermine the goals and effectiveness of the Convention. They also cause and aggravate mercury exposure among people in vulnerable situations, including indigenous peoples. Many indigenous peoples suffer from contaminated fish in the rivers and oceans, which had previously served as the foundation of their customary subsistence lifestyles and culture.

98. At its most recent meeting, the Conference of the Parties to the Convention made some progress, calling upon States to engage indigenous peoples when developing national action plans for reducing and eliminating mercury in small-scale gold mining.<sup>114</sup> As a next step, the Conference of the Parties should establish a process to ensure indigenous peoples’ participation.

<sup>109</sup> Stockholm Convention, art. 7; focus on gender in the Basel, Stockholm and Rotterdam Conventions, see [www.brsmeas.org/Implementation/Gender/GenderHeroes/Introduction/tabid/4759/language/en-US/Default.aspx](http://www.brsmeas.org/Implementation/Gender/GenderHeroes/Introduction/tabid/4759/language/en-US/Default.aspx).

<sup>110</sup> Submission from the Center for Citizen’s Communication and Justice; see.

<sup>111</sup> Submissions from the National Indigenous Organization of Colombia and the International Indian Treaty Council; see the recommendation of the Permanent Forum on Indigenous Issues on emerging rights of local communities, available at [www.cbd.int/doc/c/4386/ac7b/fe383a6c1a542cafe05da837/wg8j-11-06-en.pdf](http://www.cbd.int/doc/c/4386/ac7b/fe383a6c1a542cafe05da837/wg8j-11-06-en.pdf).

<sup>112</sup> See A/HRC/51/35.

<sup>113</sup> Arts. 2 (k) and 7.

<sup>114</sup> See decision MC-4/4.

## **2. Stockholm Convention on Persistent Organic Pollutants**

99. The Stockholm Convention on Persistent Organic Pollutants is aimed at eliminating or reducing the production and use of such pollutants. In the Convention, it is acknowledged that “the Arctic ecosystems and indigenous communities are particularly at risk because of the biomagnification of persistent organic pollutants and that contamination of their traditional foods is a public health issue”.<sup>115</sup> Yet, to date, neither the Convention’s provisions nor the decisions adopted by the Conference of the Parties offer concrete guidance or establish specific programmes to prevent the deleterious impacts of persistent organic pollutants on indigenous peoples.

## **3. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade**

100. The Rotterdam Convention is aimed at controlling the international trade in hazardous chemicals and pesticides by way of an informed consent procedure. The prior informed consent procedure is required for all chemicals listed in annex III to the Convention. Once a chemical is on the list, article 10 provides the importing parties with the authority to decide whether to import that chemical. The Rotterdam Convention does not set out a ban or prohibition of the import/export of the listed chemicals, but rather a platform to exchange information on them.

101. The prior informed consent procedure of the Rotterdam Convention does not specifically contemplate free, prior and informed consent from indigenous peoples for the import of toxics into their territories. It does not even envision indigenous peoples’ participation in the process. The Convention’s prior informed consent procedure also permits parties to export hazardous pesticides and other chemicals that are banned for use in their own jurisdictions, so long as there is consent of the importing country, regardless of the impacts on indigenous peoples.

102. The Conference of the Parties to the Convention has also failed to act on the recommendations of its Chemical Review Committee to prevent human health and environmental harms, as highlighted in the Special Rapporteur’s report on the right to science in the context of toxic substances.<sup>116</sup>

## **4. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal**

103. Under the provisions of the Basel Convention, indigenous peoples do not receive explicit, specific protection from the impacts of the transboundary movements and disposal of hazardous and other wastes. Indonesia and Switzerland led an initiative to improve the effectiveness of the Convention resulting, inter alia, in a set of practical manuals adopted at the thirteenth meeting of the Conference of the Parties.<sup>117</sup> One of its recommendations under environmental performance standards specifies that States’ “[waste management] facilities and services should also take into consideration other applicable policies, such as customary or indigenous law and treaties”.<sup>118</sup>

## **B. International human rights instruments**

104. Indigenous human rights are interrelated, interdependent, interconnected and indivisible. Under international human rights law, States have a duty to protect

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<sup>115</sup> Stockholm Convention, preamble.

<sup>116</sup> [A/HRC/48/61](#).

<sup>117</sup> See decision BC-13/2.

<sup>118</sup> See UNEP/CHW.13/4/Add.1/Rev.1.

indigenous peoples from toxics exposure. In cases of environmental damage, the State must monitor and restore the environmental quality of indigenous peoples' land and territories and guarantee environmental remediation. States must take precautionary measures to guarantee a healthy and clean environment where medicinal plants, animals and lands are free of pollution. To protect indigenous peoples' rights, States must integrate these obligations and principles into the implementation of the chemicals and wastes multilateral environmental agreements.

## **1. United Nations Declaration on the Rights of Indigenous Peoples**

105. The effective enjoyment of the rights recognized in the United Nations Declaration on the Rights of Indigenous Peoples rests on respect for the right to live in a non-toxic environment. For example, article 24 declares that indigenous peoples have the right to their traditional medicines, including the conservation of their vital medicinal plants, animals and minerals. Article 20 recognizes the right of indigenous people to be secure in the enjoyment of their own means of subsistence and development and to engage freely in all their traditional and other economic activities.

106. The Declaration provides protections for indigenous peoples against toxics. Article 29 recognizes the right of indigenous peoples to the conservation and protection of their environment. It also requires States to take measures to ensure no storage or disposal of hazardous materials on indigenous land without their free, prior and informed consent, and to monitor and support their health if they are exposed to such materials.

107. Given that denial of land rights, encroachment on territories, and extraction of resources are key drivers of harms against indigenous peoples, the Declaration establishes several protections to confront these threats. Article 3 asserts indigenous peoples' right to self-determination, by virtue of which they freely pursue their economic, social and cultural development. Article 19 articulates the State's duty to consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their consent before adopting and implementing legislative or administrative measures that may affect them.

## **2. International Convention on the Elimination of All Forms of Racial Discrimination**

108. The disproportionate patterns of toxic exposure on indigenous peoples reflect structural discrimination and violence against indigenous peoples. The International Convention on the Elimination of All Forms of Racial Discrimination provides that indigenous peoples must be treated equitably so that they can access their full scope of human rights. The preamble considers United Nations condemnation of colonialism, segregation and discrimination and aims to prevent future manifestations of such violence.

109. The Committee on the Elimination of Racial Discrimination, in its general recommendation No. 23 (1997), asserts that States should provide indigenous peoples with conditions allowing for a sustainable economic and social development compatible with their cultural characteristics and ensure that indigenous peoples have equal rights to effectively participate in public life. Furthermore, no decisions directly relating to their rights and interests should be taken without their free, prior and informed consent.

110. Articles 2 (1) (d) and 5 (e) of the Convention require States parties to take appropriate legislative and administrative measures to protect indigenous peoples' rights to culture and social and economic development. In its general recommendation No. 23 (1997), the Committee recognizes the need to prevent the loss of "land and resources to colonists, commercial companies and State enterprises".

### 3. Indigenous and Tribal Peoples Convention, 1989 (No. 169)

111. The Indigenous and Tribal Peoples Convention, 1989 (No. 169), of the International Labour Organization (ILO) creates standards for States regarding indigenous peoples' rights, including the right to their lands, territories and resources. The preamble recognizes indigenous peoples' rights to take control over their development and ways of life to maintain their cultural and spiritual identities.

112. The United Nations Declaration on the Rights of Indigenous Peoples can illuminate key elements of ILO Convention No. 169. The duty to consult in good faith with a view to reaching agreement, articulated in article 6, should be interpreted in the light of the free, prior and informed consent standards in the Declaration regarding exploitation and use of indigenous lands.<sup>119</sup> Similarly, the duty of Governments to "take measures, in cooperation with the peoples concerned, to protect and preserve the environment of the territories they inhabit", articulated in article 7, must include measures to ensure no storage and disposal of hazardous substances without free, prior and informed consent.

113. In June 2022, the International Labour Conference amended the Fundamental Principles and Rights at Work to include the right to a safe and healthy work environment as a fundamental right.<sup>120</sup> This is a watershed development with legal and political significance and is fully consistent with the special protections under ILO Convention No. 169 for the rights of indigenous workers. Article 20 asserts that workers must not be subjected to working conditions hazardous to their health, "in particular through exposure to pesticides or other toxic substances". Furthermore, article 25 provides that Governments shall ensure that adequate health services are made available to affected indigenous peoples, so that they may enjoy the highest attainable standard of physical and mental health.

### 4. Convention on the Rights of the Child

114. The Convention on the Rights of the Child protects the right of indigenous children to enjoy their culture. Integral to indigenous children's right to culture is access to a clean, healthy and sustainable environment. In particular, States must prevent children's exposure to toxics including through water, food, air and other sources of exposure.<sup>121</sup>

115. The Committee on the Rights of the Child, in its general comment no. 11 (2009) on indigenous children and their rights under the Convention, notes that for indigenous children the use of traditional land is significant to their development and enjoyment of culture. It calls upon States to "closely consider the cultural significance of traditional land and the quality of the natural environment while ensuring the children's right to life, survival and development to the maximum extent possible". The Permanent Forum on Indigenous Issues has called for the full implementation of the Convention by States, with an emphasis on the need to ensure that indigenous children are not exposed to toxics through water, food, air and other sources of exposure.<sup>122</sup>

<sup>119</sup> Right to consult and consent in arts. 6 (1) and 6 (2); 15 (2); 17 (2); 22 (3); 27 (3); and 28 (1).

<sup>120</sup> ILO, "International Labour Conference adds safety and health to Fundamental Principles and Rights at Work", 10 June 2022.

<sup>121</sup> Convention on the Rights of the Child, art. 24.

<sup>122</sup> [E/2018/43](#), para. 43.

## **VI. Conclusions and recommendations**

116. Indigenous peoples are suffering grave impacts to their fundamental human rights because of exposure to toxic and hazardous substances. However, indigenous peoples' voices are too often silenced in decision-making on chemicals and wastes.

117. The irresponsible extraction of minerals, oil and gas denies enjoyment of basic rights to indigenous peoples. Exploration increases deforestation and affects biodiversity, and seismic testing used in exploration disrupts vital food sources. The vast toxic and sometimes radioactive contamination caused by exploitation spreads death and disease to the vegetation, animals, waters and bodies of indigenous peoples. These devastations displace indigenous peoples and separate them from vital aspects of their culture, language and livelihoods.

118. In too many instances, States ignore the health and well-being of indigenous peoples when authorizing activities that release hazardous substances in their territories. Companies export highly hazardous pesticides that are banned in their country of origin, and the toxic chemicals are sprayed over indigenous peoples. Dumping of hazardous wastes, particularly at military sites, leaves intergenerational scars on indigenous peoples. Decades of waste disposal on or near indigenous land have an impact on interconnected waterways and food sources.

119. These activities and industries burden all aspects of indigenous life, affecting indigenous peoples' enjoyment of fundamental rights. Denial of free, prior and informed consent opens indigenous peoples' lands, territories and resources to activities that cause their loss of food, water, life and a clean and healthy environment. Releases of hazardous substances have numerous, devastating consequences on human health and biodiversity as these substances travel long distances through wind or water, bioaccumulate, or persist in the environment. Lack of access to information limits indigenous peoples' abilities to understand and engage in decision-making processes regarding activities that can cause adverse toxic effects.

120. Indigenous peoples in vulnerable situations, such as peoples in isolation, and women, children, older persons and persons with disabilities, face additional impacts and challenges. Toxic exposure causes disabilities and also intensifies difficult conditions for indigenous persons with disabilities. Sociocultural roles in indigenous societies can aggravate environmental violence against women. The severe consequences of toxics and hazardous substances on children and the elderly impair the passage and cultivation of traditional knowledge.

121. There is also a glaring failure within the international instruments regulating chemicals and wastes to protect the internationally recognized rights of indigenous peoples. States additionally fail to effectively implement international human rights obligations to prevent, protect from and remedy the effects of toxics exposure on indigenous peoples.

122. Addressing the toxic violence on indigenous peoples is an imperative for their survival, self-determination and cultural autonomy. The effective realization of indigenous peoples' rights requires respect, protection and fulfilment of their right to a healthy environment, including their right not to be exposed to toxic and hazardous substances.

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

- (a) Identify the threat of activities and industries causing toxic effects on indigenous peoples, including through the atmospheric and ocean current transport of toxics, and adopt urgent and immediate actions to stop the influx of toxic and hazardous substances into indigenous territories;**
- (b) Develop and implement programmes to monitor activities that discharge toxics and wastes in indigenous territories and to clean up wastes and remediate contaminated ecosystems;**
- (c) Respect the right to and obtain free, prior and informed consent, including for activities that may impose toxic impacts on indigenous peoples;**
- (d) Work with indigenous peoples to create mechanisms for providing full reparations to them for the impacts of toxics, including full and comprehensive rehabilitation of their lands, territories and resources;**
- (e) Create an enabling environment for the conduct of scientific inquiry on the risks and harms to indigenous peoples' health and environment from hazardous substances;**
- (f) Adopt a national strategy to eliminate mercury in small-scale gold mining, informed by human rights principles and consultations with indigenous peoples;**
- (g) Ban the production and export of chemicals that are banned for use within the State;**
- (h) Ban aerial fumigation of pesticides that adversely affect indigenous peoples, and effectively enforce it;**
- (i) Require businesses to fully disclose information to affected indigenous peoples about their activities on indigenous lands, including their environmental impact;**
- (j) Develop and implement initiatives in State institutions and legislation to address the disproportionate impact of toxics on indigenous peoples, especially on people in vulnerable situations;**
- (k) Create health-care plans to address health disparities for indigenous peoples, including guidelines on addressing the specific health, environmental and cultural impacts of toxics on indigenous people;**
- (l) Provide resources to support indigenous-led initiatives for culturally and ecosystem-specific, rights-based solutions to toxic exposure;**
- (m) Enforce and abide by treaties or other agreements concluded between States and indigenous peoples;**
- (n) Ratify and effectively implement the Basel, Rotterdam, Stockholm and Minamata Conventions with a human rights approach, particularly integrating free, prior and informed consent and the rights to participation, information, access to justice, and effective remedy;**
- (o) Join and effectively implement the Escazú Agreement and the Aarhus Convention;**
- (p) Protect the cultural and spiritual development of indigenous peoples, including by preventing exposure to toxics and securing remediation in cases of contamination.**



124. The Special Rapporteur recommends that business enterprises:

(a) Obtain free, prior and informed consent from indigenous peoples whose rights, land and livelihood would be affected by their activities at every stage of project planning, implementation, monitoring and, if needed, restoration and clean-up;

(b) Conduct research efforts on the impacts of their activities on indigenous peoples and make public all methods and data used, protocols followed and findings;

(c) Provide all information in a culturally accessible manner and engage in a culturally appropriate dialogue regarding activities and their impacts on or affecting indigenous lands, waters, food and ecosystems with indigenous peoples and throughout each phase of such activities.

125. The Special Rapporteur recommends that international bodies and mechanisms in the field of chemicals and waste management:

(a) Integrate a human rights approach into all chemicals and wastes multilateral environmental agreements, with an emphasis on the risks and harms to indigenous peoples, including:

(i) Establishing processes for the full and effective participation and free, prior and informed consent of indigenous peoples in the chemicals and wastes multilateral environmental agreements;

(ii) Launching programmes for awareness-raising and dissemination of information to indigenous peoples on the chemicals and wastes multilateral environmental agreements;

(iii) Reducing language and access barriers for indigenous peoples to participate in the chemicals and wastes multilateral environmental agreements;

(b) Adopt specific workplans and programmes on policies, actions and capacity development relevant to indigenous peoples under each chemicals and wastes multilateral environmental agreement, including respect for the United Nations Declaration on the Rights of Indigenous Peoples, free, prior and informed consent and indigenous peoples' participation.

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