

GENDER AND TOXICS

SUBMISSION TO THE UN SPECIAL RAPPORTEUR ON TOXICS AND HUMAN RIGHTS

1. INTRODUCTION

Amnesty International welcomes the call by the UN Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes (Special Rapporteur on Toxics and Human Rights) ahead of the report on gender and toxics.¹ In this document, Amnesty International provides information on three case studies for consideration, based on research into human rights abuses linked to the fossil fuel and chemical industries in the USA, India and Nigeria.² In all three case studies, marginalised communities disproportionately experience harms to their health, often experienced in gendered ways, linked to their continued exposure to toxic pollution. These communities live in “sacrifice zones”, the result of irresponsible business practices combined with inadequate government regulation and enforcement that has exposed them to extreme levels of pollution and contamination. These harms are exacerbated by existing structural inequities that drive health disparities among marginalized communities; barriers to accessing timely and high-quality healthcare; and a lack of information about their exposure to toxic pollution and the potential impacts. Despite the harms to health being well documented for each of the case studies, impacted communities continue to suffer harms and struggle to access justice and effective remedies.

We also include links to Amnesty International's reports: *The Cost of Doing Business? The Petrochemical Industry's Toxic Pollution in the USA* and *Nigeria: Petroleum, Pollution and Poverty in the Niger Delta*. Amnesty International appreciates the opportunity to provide this submission.

2. FOSSIL FUEL AND PETROCHEMICAL POLLUTION IN THE USA

The Houston Ship Channel is one of the world's biggest petrochemical complexes, surrounded by over 600 fossil fuel and petrochemical plants that routinely emit pollution into the air and water that is harmful to human health, the environment and planet. Volatile organic compounds emitted by the industry, such as benzene and 1,3-butadiene, are human carcinogens and have been linked to increased rates of cancer in the region, while breathing in PM_{2.5} has been linked to respiratory issues, lung cancer, adverse pregnancy outcomes and cardiovascular problems.³

Fenceline communities that live alongside fossil fuel and petrochemical plants along the Houston Ship Channel are disproportionately low-income, racialized and have limited English proficiency.⁴ The predominance of Black and Latinx/Hispanic communities in highly polluted areas of the United States is the result of systemic racism and discriminatory housing and land use policies, including redlining.⁵ Women and all people who have the capacity to become pregnant face particular risks of gendered health harms from pollution by the fossil fuel and petrochemical industry, especially those who face multiple and intersecting forms of discrimination and experience compounded health risk because of this. Structural racism and inequities mean that fenceline communities along the Houston Ship Channel are more likely to have higher rates of pre-existing health conditions, such as cardiovascular disease, diabetes, lung disease and other respiratory issues such that exposure to pollutants can be especially harmful.

¹ <https://www.ohchr.org/en/calls-for-input/2024/call-inputs-gender-and-toxics>

² Amnesty International, *The Cost of Doing Business? The Petrochemical Industry's Toxic Pollution in the USA*, (Index: AMR 51/7566/2024), 25 January 2024, <https://www.amnesty.org/en/documents/AMR51/7566/2024/en/>; Amnesty International, *Nigeria: Petroleum, Pollution and Poverty in the Niger Delta*, (Index: AFR 44/017/2009), 30 June 2009, <https://www.amnesty.org/en/documents/afr44/018/2009/en/>; Amnesty International, *Clean It Up: Shell's False Claims about Oil Spill Response in the Niger Delta*, 2015 (Index: AFR 44/2746/2015), <https://www.amnesty.org/en/documents/afr44/2746/2015/en/>; Amnesty International, *Bhopal: 40 Years of Injustice*, unpublished (due in March 2024)

³ Amnesty International, *The Cost of Doing Business?* (previously cited), p.12

⁴ Amnesty International, *The Cost of Doing Business?* (previously cited), pp. 28-29

⁵ Redlining denied loans and other services to certain neighbourhoods based on their racial composition.

Fenceline community members along the Houston Ship Channel disclosed to Amnesty International several adverse reproductive and maternal health outcomes affecting them and their relatives, including infertility diagnoses, inexplicable menstrual irregularity, cysts, pregnancy complications, premature births and birth defects.⁶ Women told Amnesty International they were worried about their reproductive health because of their exposure to petrochemical pollution and the reproductive harms experienced by others in their communities. Some women said although they were concerned for their health due to their proximity to the industry, they lacked financial means to relocate.

In Louisiana's "Cancer Alley", Human Rights Watch has documented gendered harms to health linked to the fossil fuel and petrochemical industry, including miscarriages, high-risk pregnancies, infertility and the poor health of newborns.⁷ In its report on Cancer Alley, Human Rights Watch cited a new study by researchers at Tulane University that finds that Cancer Alley is among areas in Louisiana in which exposure to high amounts of toxic air pollution is associated with a significantly increased risk of adverse birth outcomes, including low birthweight and preterm birth.⁸

Exposure to pollutants emitted by the petrochemical industry has an adverse impact on children's health, further impacting women who disproportionately carry the burden of child-rearing. Studies have found that children living in close proximity to petrochemical plants have increased risk of leukaemia, respiratory disease, and neurodevelopmental effects.⁹ A University of Texas School of Public Health study found elevated rates of all types of childhood leukaemia in areas in the greater Houston area with the highest ambient levels of benzene and 1,3-butadiene, compared with census tracts with the lowest levels of these chemicals.¹⁰ Amnesty International spoke to residents along the Houston Ship Channel who had children that suffer from asthma flare ups that coincide with the presence of strong chemical odours in their neighbourhoods. One woman explained the difficulty she experienced after her then 10-year-old son began to experience frequent asthma attacks for the first time after moving to a neighbourhood along the Houston Ship Channel.

Houston Ship Channel communities have very little information available to them and are routinely exposed to harmful air pollutants without knowing, further increasing the risk of harm. One woman told Amnesty International that she first became aware of the health risks of living beside the petrochemical industry during her second pregnancy. She began to experience pregnancy complications after moving to a fenceline community; she recalls being "surprised and very upset" when doctors suspected environmental factors as the cause and advised her to move.¹¹

3. GAS LEAK AT CHEMICAL PLANT IN BHOPAL, INDIA

In December 1984, a leak of the deadly gas Methyl Isocyanate at the Union Carbide plant in Bhopal, exposed more than 570,000 people to harmful levels of toxic gas. As many as 10,000 people are believed to have died within three days of the leak. Those who survived developed a wide range of chronic and debilitating illnesses caused by gas exposure, including respiratory ailments, eye disease, immune system impairment, neurological and neuromuscular damage, cancers, gynaecological disorders and mental health problems, as well as experiencing miscarriages and the birth of children with congenital malformations.¹² Many people who became seriously ill after gas exposure died in the years that followed. It is believed that at least 22,000 people have died as a direct result of exposure to the leak, with exposure-related deaths continuing to occur. More than half a million people continue to suffer some degree of permanent injury.

⁶ Amnesty International, *The Cost of Doing Business?* (previously cited) pp.65-66

⁷ Human Rights Watch, "We're Dying Here", *The Fight for Life in a Louisiana Fossil Fuel Sacrifice Zone*, 25 January 2024, <https://www.hrw.org/report/2024/01/25/were-dying-here/fight-life-louisiana-fossil-fuel-sacrifice-zone>

⁸ See Human Rights Watch, "We're Dying Here", (previously cited)

⁹ Kristina W. Whitworth and others, "Childhood lymphohematopoietic cancer incidence and hazardous air pollutants in southeast Texas" (previously cited); Fernando A Wichmann and others, "Increased asthma and respiratory symptoms in children exposed to petrochemical pollution", *Journal of Allergy and Clinical Immunology*, 2009, Volume 123, Issue 3, available at <https://pubmed.ncbi.nlm.nih.gov/19111332/>; C. Huang and others, "Living proximity to petrochemical industries and the risk of attention-deficit/hyperactivity disorder in children", 2012, *Environmental Research*, Volume 211, available at <https://www.sciencedirect.com/science/article/abs/pii/S0013935122004558#preview-section-introduction>

¹⁰ Kristina W. Whitworth, Elaine Symanski and Ann. L Coker, "Childhood lymphohematopoietic cancer incidence and hazardous air pollutants in Southeast Texas, 1995-2004", August 2008, *Environmental Health Perspectives*, Volume 116, Issue 11, available at [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2592281/_Centers_for_Disease_Control_and_Prevention,_\"Particle_pollution\"](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2592281/_Centers_for_Disease_Control_and_Prevention,_\), https://www.cdc.gov/air/particulate_matter.html

¹¹ Amnesty International, *The Cost of Doing Business?* (previously cited) p.66.

¹² Amnesty International, *India: Clouds of Injustice – Bhopal Disaster 20 Years on*, (Index: ASA/20/015/2004), 7 March 2024, <https://www.amnesty.org/en/documents/asa20/015/2004/en/>

The gas leak pushed already impoverished communities surrounding the plant – consisting mainly of Muslim and lower caste Hindus living in informal settlements¹³ – into further destitution. In many families, the main wage earner died or became too ill to work.¹⁴ Gas-exposed women were unable to marry, due to concerns over possible difficulties with childbearing and the potential financial liability that chronic ill-health entailed.¹⁵ Married women exposed to the gas also faced difficulties because of their inability to work and possible difficulties with childbearing or increased financial liability because of illness.

Women who were widowed by the disaster found themselves in a particularly precarious situation, and often faced ongoing economic hardship. The state government built an area, described as a ‘colony’, of around 2,500 houses for survivors, inhabited primarily by widows. However, it did not ensure adequate living conditions. Since it opened, inhabitants of the colony have suffered from poor access roads, open drains and gutters, overflowing sewers, piles of rubbish and no access to clean drinking water. In August 2004 the state government admitted that the quality of life in the colony was bad.¹⁶ Amnesty International visited the area in October 2013 and noted some improvements, particularly in relation to provision of drinking water. However, living conditions remained poor.¹⁷ Colony residents continue to demand an upgrade of the sewage system to avoid cross-contamination with their water supply.¹⁸

Gas exposure has led to adverse pregnancy outcomes. One study conducted in September 1987 involved 865 women who lived within 1km of the plant and who were pregnant at the time of the gas leak. It concluded that 43.8% of the pregnancies did not result in live births. This is three to four times higher than the normal incidence of 6% to 10% spontaneous abortions (miscarriages) in Bhopal at the time. Of the 486 live births, 14.2% of the babies died in the first 30 days compared to a death rate of 2.6% to 3% in the two years preceding the tragedy.¹⁹ A study carried out by Sambhavna Trust Clinic confirmed these findings, noting that the exposure of pregnant women to the toxic gases had resulted in high levels of pregnancy loss, as well as a high mortality rate in the first five years of life.²⁰

4. OIL SPILLS IN THE NIGER DELTA, NIGERIA

In the Niger Delta, decades of gas flaring, waste dumping and oil spills from poorly maintained pipelines and wells, along with inadequate clean-up practices, has damaged the health and livelihoods of residents. Widespread oil pollution has contaminated the soil, water and air, adversely affecting hundreds of thousands of people living in oil producing areas of the Niger Delta. Communities have to drink, cook with and wash in polluted water, while the fish they rely on for food is scarce and contaminated with oil and other toxins.²¹ Residents report breathing difficulties, skin rashes and other health problems. As noted by the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, the average life expectancy for residents of the Niger Delta is only 40 years, compared to 55 years for Nigeria as a whole.²²

The majority of impacted communities in the Niger Delta live in poverty and rely on fisheries, subsistence agriculture and associated processing industries for their livelihoods.²³ Oil pollution has damaged mangroves that act as ‘nurseries’ for

¹³ The Madhya Pradesh Department of Gas Relief and Rehabilitation’s website describes them as “the lower strata of society”, Bhopal Gas Tragedy Relief and Rehabilitation (mp.gov.in)

¹⁴ Amnesty International, *Clouds of Injustice*, p 18-20.

¹⁵ Amnesty International, *Clouds of Injustice*, p 20-22.

¹⁶ Application for Direction, State of Madhya Pradesh, 14 August 2004, in Bhopal Gas Peedith Mahila Udyog Sangathan v. Union of India and others, Supreme Court of India, Writ Petition (C) 50 of 1998, p 10.

¹⁷ Amnesty International visit to the rehabilitation colonies, October 2013.

¹⁸ Letter from Survivor Organisations to the Chairperson Mrs K. Karunanidhi, Parliamentary Standing Committee on Chemicals & Fertilizers, on the subject of “Urgent Attention to Ongoing and Continuing Disaster in Bhopal”, 1 September 2022, point 4(iv).

¹⁹ D.R. Varma, ‘Epidemiological and experimental studies on the effects of methyl isocyanate on the course of pregnancy’, *Environmental Health Perspectives*, Vol. 72, June 1987, pp 153-157, Epidemiological and experimental studies on the effects of methyl isocyanate on the course of pregnancy. (nih.gov)

²⁰ S. Sarangi Mtech, T. Zaidi, R.K. Pal, D. Katgara, V.G. Gadag, S. Mulay, D.R. Varma, ‘Effects of exposure of parents to toxic gases in Bhopal on the offspring’, *American Journal of Industrial Medicine*, Vol. 53, Issue 8, August 2010, pp 836-841, Effectsofexposureofparents.pdf (bhopal.org)

²¹ Amnesty International, *Petroleum, Pollution and Poverty in the Niger Delta*, p.21

²² Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, *The right to a clean, healthy and sustainable environment: non-toxic environment*, 12 January 2022, UN Doc: A/HRC/49/53, https://www.srenvironment.org/sites/default/files/Reports/2022/A_HRC_49_53_AdvanceEditedVersion.pdf

²³ Amnesty International, *Petroleum, Pollution and Poverty in the Niger Delta*.

fish.²⁴ In Ogoniland, women who traditionally relied on collecting shellfish, both to sell and for food, report a reduction in the number of shellfish as a result of oil pollution. This has also undermined access to protein for the community.²⁵

Research suggests that oil spills in the region have had an impact on maternal health and neonatal mortality. Based on data from more than 20,000 Nigerian mothers, one study concluded that the neonatal mortality rate more than doubles if the mother lived near an oil spill prior to conception, increasing the rate by 37 deaths per 1,000 live births.²⁶ At Ebocha, pregnant women told Amnesty International researchers they had to leave the area because of exhaustion they relate to the gas flares.²⁷

Women and girls have been excluded from aspects of oil spill remediation and this can leave them in particularly difficult situations with respect to damage done to their livelihoods because they do not get access to the limited compensation that may be offered.²⁸ According to estimates by the UN Environment Programme, after decades of repeated oil spills in Ogoniland, it would take 30 years to reverse damage to public health and the regional ecosystem.²⁹

²⁴ UN Environment Programme, 'UNEP Ogoniland Assessment Reveals Extent of Environmental Contamination and Threats to Human Health', 7 August 2017, <https://www.unep.org/news-and-stories/story/unep-ogoniland-oil-assessment-reveals-extent-environmental-contamination-and>

²⁵ Amnesty International, *Petroleum, Pollution and Poverty in the Niger Delta*, p.27

²⁶ The Guardian, 'Absolutely shocking': Niger Delta oil spills linked with infant deaths', 6 November 2017. And Anna Bruederle and Roland Hodler, Effect of oil spills on infant mortality in Nigeria, *Proceedings of the National Academy of Sciences* Mar 2019, 116 (12) 5467-5471, <https://www.pnas.org/content/116/12/5467>.

²⁷ Amnesty International, *Petroleum, Pollution and Poverty in the Niger Delta*, p.36

²⁸ Amnesty International, *Petroleum, Pollution and Poverty in the Niger Delta*, p.73

²⁹ UN Environment Programme, 'UNEP Ogoniland Assessment'