



Gender equality and mercury

All people are exposed to **mercury** on some level, but the greatest concern revolves around the **exposure of women** of child-bearing age because of its impact on future generations.

The **Minamata Convention** pays specific attention to these effects on women and mentions the need to establish strategies to prevent the exposure of vulnerable populations to mercury found in: **artisanal and small-scale gold mining (ASGM)**, **seafood consumption**, **dental amalgam**, **skin whiteners**, and emissions from **coal-fired power plants** and other industries.

Children, infants and fetuses are at the highest risk because of the development of their nervous systems.



How bad is the problem?

Mercury in maternal blood is **directly transferred** to the **developing fetus through the placenta**, and usually cord blood levels are slightly higher than those in the mother's blood system.

Although levels of mercury in blood, hair and breast milk are gradually decreasing in most parts of the world, **levels remain too high for human health**.

50%
women

Of reproductive age in the **Yaigojé Apaporis National Natural Park** (Colombian Amazon) are at risk of having children with their IQ reduced by up to four points because of their levels of mercury.

A **review on breast milk** of 58 studies from 33 countries between 1977 and 2017 found that, in about 60% of the studies, the average level of mercury significantly exceeded the safe level set by the World Health Organization (WHO) of 1.7 µg/L.

Another study with **757 women** of child-bearing age from 21 countries revealed that 75% of women had hair mercury levels **over 0.58 ppm**, which is the most recent threshold based on data indicating harmful effects on the developing fetus. In addition, it showed that:

58%
women

Had **hair mercury levels > 1 ppm**
[=1 µg/g] (US EPA reference level)





The many sources of exposure and effects of mercury on women

Artisanal and small-scale gold mining

Artisanal and small-scale gold mining (ASGM) often uses toxic mercury to extract gold from ore. This sector is under high risk through direct exposure via amalgam burning, and through exposure to the fumes in the workplace and/or home.



Poverty is the main driver of women into mining, often underpinned by deterioration in subsistence farming. Currently, the **impacts of COVID-19** have increased their poverty and health risks, pushing women into more marginal and vulnerable roles, and increasing child labor and mercury use while ASGM supply chains are disrupted.

The current **National Action Plans** (NAPs) are required under the Convention to address women's exposure to mercury in ASGM. NAPs provide good strategies for laws, policies, trainings, health programmes, and financial approaches including training women for work in the gold supply chain or other work outside of the mines.

But it is also important that we address other socio-economic issues, including women's ongoing access to agricultural land and resources. The introduction of alternative technology that removes the need for amalgamation and the associated mercury exposure must address gender equity issues as well.

10-15 million ASGM miners in over 70 countries, mainly South America, Africa and Asia.

- 4-5 million women and children.
- estimated 1 million children aged 5-7 in 2005.

Social conditions for women:

- marginalization, including lack of formal rights and decision power.
- lack of access to or control over land, water, technologies and fair markets.
- vulnerability to sexual violence and exploitation.
- increased exposure to mercury emissions in artisanal gold shops.
- role as the primary providers of domestic services, meaning they work 5-8 hours longer in a day.

But ASGM provides an independent source of income for women and a chance to lift them out of poverty **or even just to survive**.

Seafood consumption

However, the biggest source of mercury exposure to the most women, the unborn fetus and small children is contamination of seafood by mercury that **circulates globally**, far from its original source of emissions.

Women in small island developing states far from ASGM and any industrial sources of emissions, **have very high hair levels of mercury**, well above levels linked to neurological damage in the fetus and cognitive losses in children.

Such countries rely heavily on their traditional diet of seafood and have **few options for avoiding the contamination**.

Examples of Fish Consumption Advice for Human Health:

- **WHO:** Daily recommended dose = 0.5 µg/kg.
- **USA:** Pregnant, breastfeeding women should eat 2-3 servings a week of fish low in mercury, avoid high-mercury fish entirely.
- **Australia and New Zealand:** Fish with higher levels of mercury can be consumed if done so less frequently and without other fish consumption.
- **Faroe Islands:** Abstain from eating whale meat.
- **Japan:** Promotes the benefit of eating seafood and provides specific advice for women on the desirable amount of seafood consumption lower in mercury.



Skin whitening products

Every country has a duty to get mercury out of skin whitening products (SWPs), which sometimes contain levels as **high as nearly 44,000 ppm**. Another solution, as **stated by the WHO**, is to stop using these cosmetics altogether. Social constructs that lead women, and men, to want lighter colored skin should be addressed.

Among the health effects reported in a **survey in Jamaica**: **skin irritability, headaches, scars, depression**.

Dental amalgam

Minamata Convention requires Parties to phase down the use of dental amalgam. Many countries have already put in place **measures to phase out its use** in women of child-bearing age and children.

It is important to remember that it is not just the recipients of amalgam fillings that are exposed to the mercury, but also the **dental clinic staff** like dental assistants, a high proportion of which are women of child-bearing age.

Minamata Convention sets a legal limit of 1ppm in SWPs.

The USA among other countries have notified the Minamata Convention Secretariat, under **Article 4.2 of the Convention**, of its Cosmetics Regulations which prohibit the marketing of skin lightening soaps and creams containing mercury.

Countries with bans on mercury in SWPs include:

EU countries, Canada, Ghana, Philippines, Nigeria, Uganda...

Europe **prohibited to use amalgam** for treatment of:

- deciduous teeth,
- children under 15 years,
- pregnant or breastfeeding women.

Exception: if deemed strictly necessary by the dental practitioner on the ground of specific medical needs of the patient.

Why does it matter? Gender equality to make mercury history

Exposure of women to mercury results in a higher incidence of hormonal disorders, reduced fertility and impact on baby's health.

Ultimately, reducing the exposure of women and children to mercury requires **reducing industrial emissions** which contaminate the seafood that is so vital for sustaining many populations.

Much can and should be done to dramatically reduce other exposures starting with:

Stopping skin whitening practices and the social constructs that lead people to want a whiter skin.

Strengthening the efforts to **phase down dental amalgam**.

Addressing the raft of social issues in ASGM that result in the exposure of women and children to mercury, including **involving women in the introduction of new technologies** that remove the use of mercury completely.

And **supporting women in agriculture and other livelihood endeavors** so that they and their families are not driven by poverty towards dangerous and unsustainable practices to earn a living.

Recent studies have linked mercury levels in women with:

- **Neurodevelopmental** problems and neurotoxicity in children and adults, lower IQ, **autism**.
- **Reproductive**: infertility and subfertility, menstrual and hormonal disorders, including polycystic ovary syndrome, premenstrual syndrome, dysmenorrhoea, amenorrhoea, premature menopause, endometriosis, benign breast disorders, and abnormal lactation, gestational diabetes, preeclampsia, pre-term births.
- **Endocrine**: reduced thyroid hormone, increased thyroglobulin autoantibody, increased prostaglandins, breast cancer.



Main Action Points

The principles of **gender equality** are already embedded in the **projects delivered** under the **capacity-building and technical assistance** programme of the Convention, as well as in **National Action Plans** submitted by Parties.

Currently we are conducting the following activities:



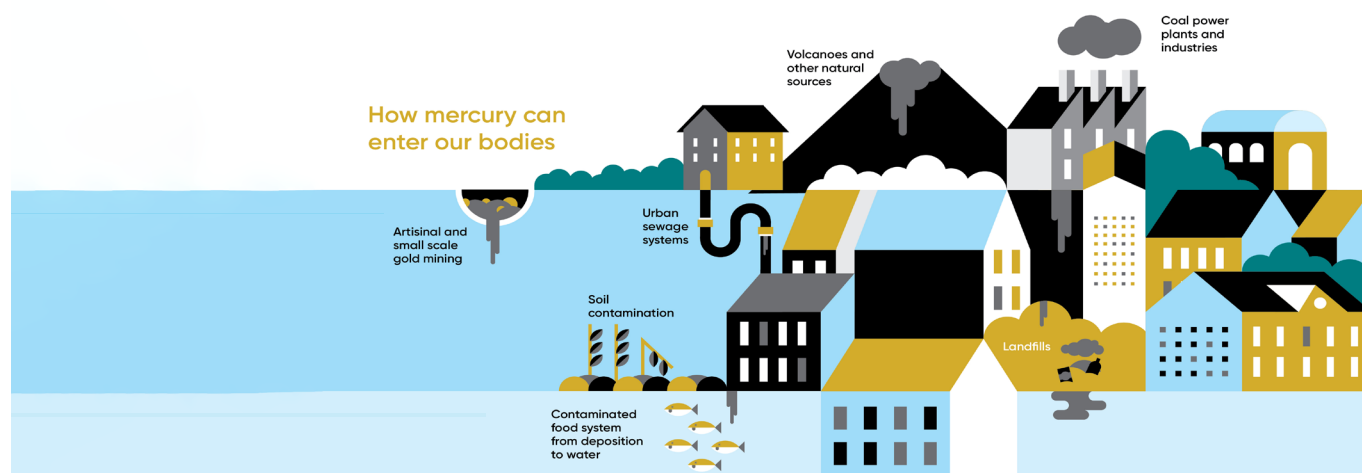
In 2020, the Secretariat of the Minamata Convention has been gathering relevant **scientific, technical and policy information**, specifically regarding women and children, to consider gender in the work of the Convention.



We are also developing **knowledge products on gender**, such as a synthesis report on major problem areas covered by the Convention, and communication products on gender and mercury to **supporting Parties in integrating gender** in the implementation of the Convention.



A proposal for a **gender roadmap** is being developed by the Secretariat, with the objective of **mainstreaming gender** within its programme of work.



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About the Minamata Convention

The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury, one of the **top 10 chemicals** of major public health concern, according to WHO.

It is named after the city in **Japan** where its inhabitants experienced a tragic, decades-long mercury poisoning that became known as the “Minamata disease”. A ceremonial opening of the diplomatic conference which adopted the Convention was held in Minamata in **October 2013**.

The Convention is aimed at enhancing the **reduction of mercury pollution** in the next decades, protecting the environment and the lives of millions of people around the world.

As of May 2021, the Convention:

- Is the youngest global multilateral environmental agreement, it entered into force on **16 August 2017**.
- Has been ratified by **131** countries.
- Has a **90%** rate of Parties who have designated a national focal point for the exchange of information.
- Has an **80%** rate for the first national reports on measures undertaken to implement the Convention.
- Counts with over **\$112** million approved by the Global Environment Facility for mercury-related projects.
- And counts with almost **\$6** million contributed to the Specific International Programme to support capacity building and technical assistance.