International Journal for Research in Engineering Application & Management (IJREAM)
ISSN : 2454-9150 Vol-04, Issue-10, Jan 2019

Minamata Convention and its relevance to India- A Critical analysis

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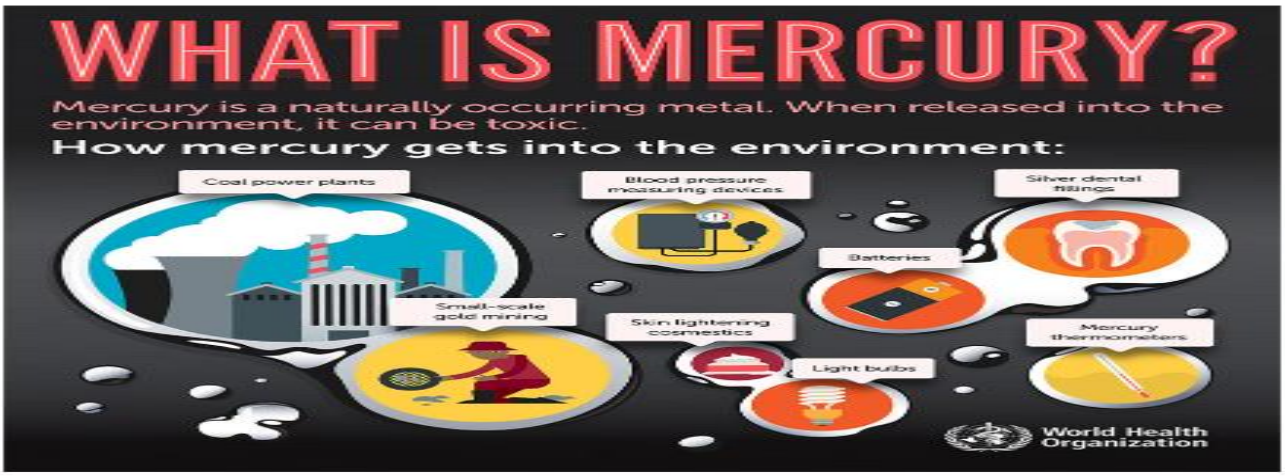
Abstract - A year after it was adopted, India joined the global mercury abatement agreement. Not surprisingly, India dragged its feet a bit, but in the end signed up to the Minamata Convention on Mercury on 30 September, a year after it was adopted. The convention that took almost six years to take final shape is named after the Japanese city that, since the 1950s, has become synonymous with deadly mercury contamination and poisoning. The Minamata Convention is part of a cluster of agreements that include the Basel Convention on the control of transboundary movement of hazardous wastes and their disposal, the Rotterdam Convention for managing international trade in hazardous chemicals and pesticides, and the Stockholm Convention on the restriction and elimination of the production and use of persistent organic pollutants. Mercury pollution arises from a variety of sources. There is mercury mining although this is overwhelmingly now only in China and some Central Asian countries such as Kyrgyzstan. It is also very heavily used in artisanal and small-scale gold mining to separate gold from the ore. Mercury is used in the chemical and petrochemical industries and also in household products like compact fluorescent lamps (CFLs) and thermometers. Mercury emissions to the atmosphere also take place from coal-fired power plants. Mercury is present in industrial effluents that are let into water bodies and the sea and enters the human food chain through the consumption of fish. This is, in fact, what caused the disaster at Minamata in the 1950s. Contaminated sites including old mines, landfills and waste disposal locations are also important sources of mercury pollution this paper analysed the relevance of Minamata convention in India.

Keywords – Minamata convention, global, India.

I. INTRODUCTION

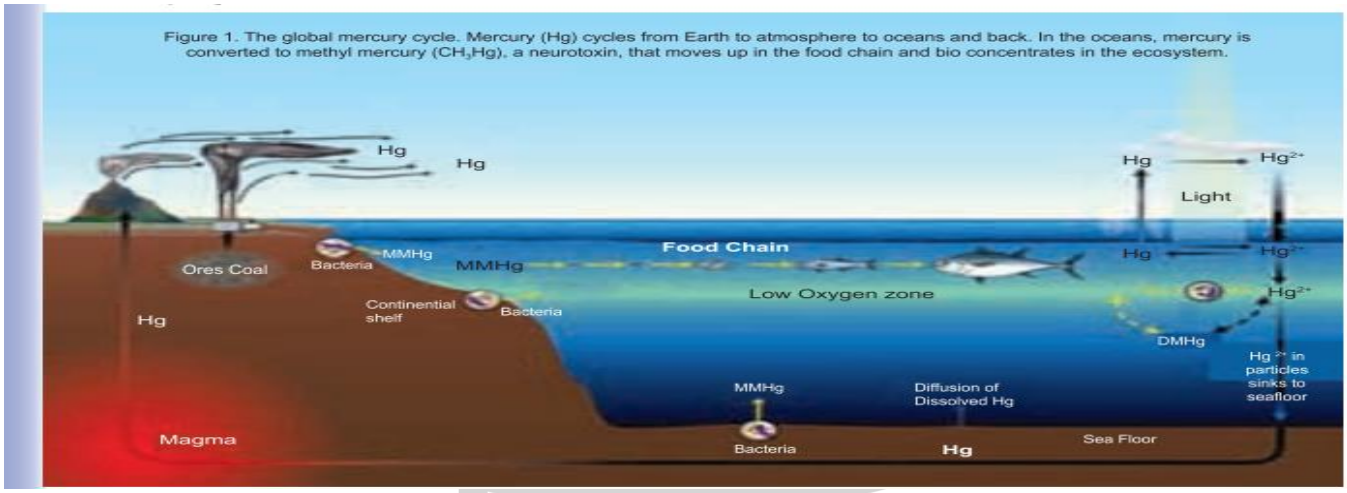
Mercury is an element, naturally present in the environment. It can be emitted from natural resources as well as human made activities. Man made activities have increased the presence of mercury on land, water and air. Mercury is a toxic metal which is persistent (bio accumulates and bio-magnifies) in nature and metabolizes into methyl mercury naturally which is fatal for the human environment. It can travel short and long distance depending on chemical form, and can pollute the human environment to a very large extent.[1]



[1] Noelle E. Selin, "Global Biogeochemical Cycling of Mercury: A Review", The Annual Review of Environment Resources, Volume 34, 2009, Pages 43−63

 DOI : 10.18231/2454-9150.2018.1327

The entry of mercury to human food chain is mostly because of contaminated fishes, other sea food and other food sources. This is because once it is emitted from the smokestacks of coal-fired power plants, among other sources; the gas can drift through the atmosphere for up to a year before settling into oceans and lakes. It can then accumulate in fish as toxic methyl mercury, and eventually harm the people who consume the fish.[2] The property of mercury to re-enter the atmosphere through evaporation makes it an extremely toxic and fatal for human surroundings. It is necessary to eliminate the use of mercury in the environment because its presence can have a deleterious or detrimental effect on human health and environment.



After realising about all the harmful effects of mercury and the immediate need to eliminate it from our environment, the Minamata convention on mercury was introduced. This Convention had a lengthy procedure for coming into existence. It involved of three years of meeting and negotiating, after which the text of the Convention was approved by delegates representing close to 140 countries on 19 January 2013 in Geneva and adopted and signed later that year on 10 October 2013 at a Diplomatic Conference held in Kumamoto, Japan. The convention is named on an infamous city in Japan called Minamata. This name has been given to convention because, back in the day mercury compound were released into water bodies and the fishes in that water bodies got contaminated. The people who consumed the fish were also affected and fell ill.

II. MINAMATA CASE

The first poisoning of mercury took place in the year 1956 in Minamata , Japan. This was, before the UNEP had addressed the issue of harmful effects of mercury on health in 2001. In 1956, a five year old girl in Minamata was found with unusual neurological symptoms with convulsions and difficulties in walking and speaking.[3] This was the first well documented case of Minamata disease, which was officially reported along with other three cases including her sister on 1 st May 1956.[4] Minamata disease is caused by the poisoning of methyl mercury, this poisoning occurs when fish and shellfish which are heavily contaminated by toxic chemical are consumed daily.[5] contaminated by toxic chemical are consumed daily.[6]

[2] Massachusetts Institute of Technology. "Impact of mercury-controlling policies shrinks with every five-year delay, study finds: Toxin will accumulate in the environment, particularly in remote regions, as countries delay implementing emissions controls." ScienceDaily. ScienceDaily, 1 November 2018. <www.sciencedaily.com/releases/2018/11/181101133825.htm>.
[3] Noriyuki Hachiya, "The History and the Present of Minamata Disease- Entering the Second Half a Century", Japan Medical Association Journal, Volume 49 (3), 2006, Pages 112–118
[4] Ibid, Page 112
[5] *Ibid*
[6] *Ibid*

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Objectives of Minamata Convention

The main objective of the Minamata Convention is to ensure the protection of human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. Contents of the convention state provisions in support of the above mentioned objective. It also includes provisions related to control and reductions of processes and industries where mercury is used, released or emitted. The treaty also addresses the direct mining of mercury, its export and import, its safe storage and its disposal once as waste. Major highlight of the convention are ban on any new mercury mines, to discontinue the production in the existing once. The convention also mentions the international regulation of the informal sector for artisanal and small scale gold mining.

The Convention is made of 35 Articles and 5 Annexes. Articles can be divided into four main categories[7]:

1. Operational articles – which describe the obligations for Parties to reduce anthropogenic emissions and releases of mercury and mercury compounds to the environment, with controls on all lifecycle stages of mercury:
   - Controls on mercury supply sources and trade (Article 3)
   - Phase-out and phase-down of mercury use in products and processes (Articles 4, 5 and 6)
   - Controls on artisanal and small scale gold mining where mercury is used (Article 7)
   - Controls on air emissions and releases to land and water (Articles 8 and 9)
   - Storage, waste and contaminated sites (Articles 10, 11 and 12)
2. Support to Parties – with articles relating to:
   - The establishment of a financial mechanism, which includes the Global Environment Facility Trust Fund and a specific international Programme to support capacity-building and technical assistance (Article 13)
   - The provision of capacity building, technical assistance and technology transfer (Article 14)
   - The establishment of an Implementation and Compliance Committee (Article 15)
3. Information and awareness raising articles, covering:
   - Health aspects (Article 16)
   - Information exchange (Article 17)
   - Public information, awareness and education (Article 18)
   - Research, development and monitoring (Article 19)
   - Implementation plans (Article 20)
   - Reporting (Article 21)
   - Effectiveness evaluation (Article 22)
4. Administrative matters – with articles establishing the Conference of the Parties (Article 23), the Secretariat, hosted by UNEP (Article 24) and covering procedures such as the settlement of disputes, amendments to the Convention, the adoption and amendment of annexes, the right to vote, signature, ratification (or acceptance, approval or accession), entry into force, reservations, withdrawal, depositary, authentic texts (Articles 25 to 35).

The convention also prohibited a myriad of products which contain mercury and their production and trade will be altogether be prohibited by 2020. Some developing countries have asked for flexibility to continue use of mercury, mercury based products and processes involving mercury compounds until 2025. India is one of these countries.

III. MERCURY BASED PRODUCTS

Products that contain even small amount of mercury can be very toxic for human surroundings. Some of the examples of mercury containing products are enlisted below.

- Fluorescent light bulbs and lamps, including compact fluorescent lamps, tubes, and high intensity discharge lamps and tanning lamps contain mercury and must be recycled.
- Batteries can contain toxic metals such as mercury, cadmium, lead and nickel.
- Equipment in medical offices like blood pressure measuring devices (sphygmomanometers), oesophageal dilators and fever thermometers may contain mercury.
- Dental amalgam is approximately 50 percent mercury.
- Thermostats used to regulate heating and cooling systems in homes and commercial buildings sometimes contain mercury.
- Thermometers used to measure body temperature sometimes contain mercury.
- Skin-lightening creams one should avoid skin lightening or anti-aging products that contain the ingredients “calomel”, “mercuric”, “mercurous” or “mercurio” or “mercury”.

[7] The Minamata Convention on Mercury, 2013, came into force on 16th August 2017

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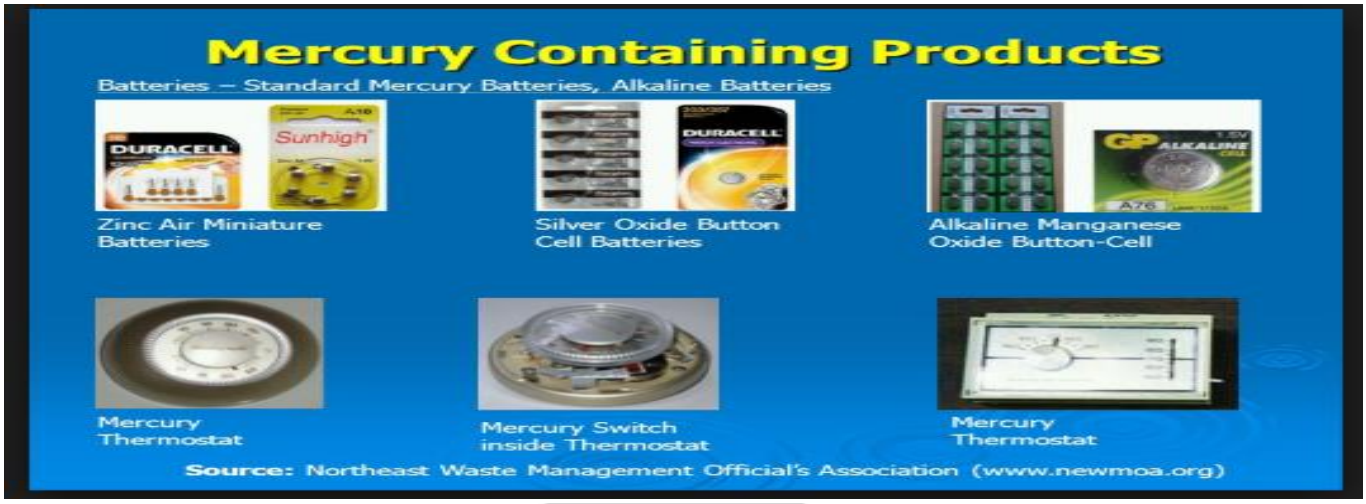
- Car switches and some anti-lock braking systems can contain mercury
- Jewellery can sometimes contain mercury.
- Appliances and 'white goods' like chest freezers, washing machines, gas ranges and gas hot water heaters contain mercury switches.



Most amount of mercury release come from coal fired power station. Similarly the most amount of mercury used is to separate gold from ore bearing rock. Alternatives of both these processes should be found.

IV. MINAMATA CONVENTION AND INDIA

The Indian Union cabinet chaired by the Prime Minister Shri Narendra Modi on 7th February 2018 approved a proposal for ratification of the Minamata Convention, on Mercury and depositing the instrument of ratification enabling India to become a Party of the Convention.[8] The convention has 88 ratifications and 144 signatories including India, which signed it on 30 September 2014.[9] In the initial stages of the negotiation process India had participated actively in making significant contributions for the finalization of the treaty text but had not ratified it till now.

The convention prohibits the use of mercury and mercury based products and also the trade of such products by 2020. The approval entails Ratification of the Minamata Convention on Mercury along with flexibility for continued use of mercury-based products and processes involving mercury compound up to 2025.[10]

The objective of the Minamata convention would be to protect human health and environment from the anthropogenic emissions and releases of mercury and mercury compounds. This implementation would be done keeping the sustainable development in mind. India agreed to ratify as, the Convention protects the most vulnerable from the harmful effects of mercury and also protects the developmental space of developing countries. Therefore, the interest of the poor and vulnerable groups will be protected.[11] Since India is a developing country it is necessary to protect the developmental space of developing countries from the harmful effects of the mercury and its compounds.

"The approval entails ratification of the Minamata Convention on mercury along with flexibility for continued use of mercury-based products and processes involving mercury compound up to 2025," an official statement said.[12] Amongst India's neighbours Sri Lanka, Bangladesh, Nepal and Pakistan are also signatories to the convention. But only Sri Lanka has ratified it.

The Minamata Convention on Mercury will further urge enterprises to move to mercury-free alternatives in products and non-mercury technologies in manufacturing processes. This will drive research & development, and promote innovation.[13]

V. CONCLUSION

Minamata Convention comes under the ambit of Global Environmental Facility (GEF). "GEF was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems. Since 1992, the GEF has provided over $17 billion in grants and mobilized an additional $88 billion in financing for more than 4000 projects in 170 countries. he

[8] Ministry of Environment, Forest and Climate Change, Cabinet approves Ratification of the Minamata Convention on Mercury, Press Information Bureau (Nov. 16 2018), http://pib.nic.in/newsite/PrintRelease.aspx?relid=176356&fbclid=IwAR38p7sBCVvlxYy1cjGFxjiXHyxqyZgZ7ghYzW9AuE_oQSo376oM9TNDyZE
[9] Mayank Aggarwal, Union cabinet approves ratification of Minamata Convention, livemint, (Nov. 17 2018), https://www.livemint.com/Politics/fKp7fq1nnAdPwMhZhJYC9K/Union-cabinet-approves-ratification-of-Minamata-Convention.html
[10] Supra note 7
[11] Supra note 7
[12] Supra note 8
[13] Supra note 7

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GEF unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives. It unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives."[14] The financial support organized by the convention is provided by the GEF. This financial aid is used to set up mercury awareness campaigns by which it gives support for mercury alternatives. First round of funding had been announced by the international program and five projects from around the world have been given the go ahead. The amount of $1m will be distributed amongst projects in Argentina, Armenia, Benin, Iran and Lesotho.

The convention has tired its level best in controlling the production and used of mercury. A single treaty or a single country can't reduce the amount of emission of mercury. It requires all the countries to come together and work up on the plan to reduce the use of mercury. The researchers suspected that, if countries hold off on implementing their emissions control plans, this could result in the growth of not just primary emissions from smokestacks, but also legacy emissions that made it back into the atmosphere a second time.[15]

It is concluded that the longer we wait to decrease global emissions, the longer it will take to get to safe mercury free environment for human beings. There should be a global action. All countries should reduce the emission of mercury if we want a notice4ble change in the amount of mercury being consumed.

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3. Noriyuki Hachiya, "The History and the Present of Minamata Disease- Entering the Second Half a Century", Japan Medical Association Journal, Volume 49 (3), 2006, Pages 112–118

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[5] Ibid

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[9] Mayank Aggarwal, Union cabinet approves ratification of Minamata Convention, livemint, (Nov. 17 2018), https://www.livemint.com/Politics/fKp7fq1nnAdPwMhZhJYC9K/Union-cabinet-approves-ratification-of-Minamata-Convention.html

[10] Supra note 7

[11] Supra note 7

[12] Supra note 8

[13]Supra note 7

[14]Global Environmental Facility official website, https://www.thegef.org/about-us

[15]Supra note 2

[14] Global Environmental Facility official website, https://www.thegef.org/about-us
[15] Supra note 2

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