

**The Asia-Pacific Mercury Monitoring
Network (APMMN) Meeting
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Overview of mercury hazard in Nepal

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Map of Nepal



Nepal at a glance

- **Federal Republic of Nepal** from 2008, consist of seven provinces and 753 local government.
- **Area:** Approximately 147,000 sq km,
- **Three ecological zones**
- **Lowland:** 17 percent.
- **Midland:** 64 percent soars up to 487m.
- **The highland:** 19% ranges between 4877 m – 8848 m, (8 highest summits out of 14 summits around the world)
- **Population:** 26 million (2011est.)

Legal Practices on Controlling Mercury Emission

- Environment Protection Act, 1996 and Environment Protection Rule, 1997
- Solid waste management Act 2011
- There is no specific act/regulation for the management of mercury till date.
- Mercury and mercury compounds are listed as hazardous substances in the annex of recently drafted Hazardous Substance Management Regulation which is in the process of approval.
- The government of Nepal has set standard tolerance limit for Mercury in Effluent discharge from industries as 0.01mg/l and emission from incinerator as 0.05 mg/Nm³.

Status of Minamata Convention Implementation

- Nepal signed Minamata convention on 10 October, 2013 and is in the process of ratification by the Parliament
- Nepal is preparing for ratification to become its party and to be obliged to the convention.
- Nepal has translated Minamata Convention into Nepalese Language.

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- GoN is executing a project entitled "**Enabling Activities to Conduct Minamata Convention Initial Assessment (MIA) in Nepal**".
- The project has technical support from UNEP.
- The MIA activities will complement the country's efforts to significantly reduce the exposure of mercury to human health and the environment.

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- The overall objective of the MIA is to strengthen Nepal's national capacity to fulfil the obligations under the Minamata Convention and promote effective implementation of its provisions.
- Now it is working in collecting baseline information on mercury use and releases within the country.

Status of Mercury in the country

- Nepal does not produce Mercury. There is no mining facilities in the country.
- Mercury and mercury compounds are being imported from other countries and used for different purposes in different sectors as per the requirement.

Mercury containing product

- Thermometer
- Barometer
- Hg-Lamp
- CFL bulb
- Dry/ Wet cell batteries
- Hg-metal
- Dental Amalgam
- Hg-compound
- Electronic products
- Ritual product

Uses of Mercury

As dental filling

- Mercury is used as amalgam in general hospitals (Dental Departments) and dental hospitals.
- It is declining for higher income group due to the practice of alternatives like glass ionomer compomers but these types of mercury free alternatives are applicable for higher income group only.

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Lamps and bulbs

- Mercury containing lamps (bulbs) like fluorescent tubes, compact fluorescent CFL, high intensity discharge lamps were used as standard for energy efficient lamps. Government of Nepal used to encourage the public to use CFL but now a days mercury free alternatives such as light emitting diodes (LEDS) are also available. The use of CFL is being phase out slowly.

Florescent lamp separately kept



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Herbal Medicines

- Mercury compound cinnabar is widely used for the production of herbal drugs. Specially drugs are prepared for the relief of bone pain. Even up to 150 kg cinnabar are used per year by a single herbal drug industry .
- Many herbal products contains mercury compound.
- Cosmetics product contains mercuryare widely used.

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- **Mercury / Mercury compounds in laboratories**
- Mercury / Mercury compounds are also widely used in laboratories of higher secondary schools, universities, public and private laboratories
- Many alternatives have been developed for mercury containing reagents but mercuric chloride, mercuric iodide, mercuric sulphate are still.

Existing situation of awareness

- Mercury and mercury containing products of different types are increasingly imported and consumed in Nepal.
- There is no proper information on the import and consumption.
- Even alarming is the situation that the general public does not know potential sources of Mercury,
- Unaware of mode of it's release into the environment and about its health impacts.
- Safety measures and trainings on hazards of mercury is lacking.
- Workers/assistants do not use any personal protective equipment/measures

Disposal pattern

- Mainly through hospitals and dental practices, where proper segregation of wastes at the source is not done, larger amount of mercury released into the environment.
- Health care wastes (hospitals, dental hospitals/practices, pharmacies) is the significant / potential source of mercury release.
- The academic institutions and laboratories are to be considered as major release sources.

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- Artisanal activities releases high amount of mercury to the environment. Nepal is popular for products of gold plated idol, which is developed as household industry which add on mercury pollution.
- During the combustion of coal, elemental mercury is emitted in considerable amount. Many industries are using coal as a source of energy.
- The mercury is released from broken or just thrown fluorescent lamp which adds on increasing release of mercury to the environment.
- From incineration of dead human body.

Way forward

- There is great need to develop and execute national implementation Plan for monitoring mercury.
- Develop an inventory of import, export of mercury and mercury containing products
- develop data base of emission and release of mercury and mercury added products.
- Control and reduce mercury emissions and disposal, wherever feasible.
- Needs to work hard for Ratification of mercury convention.

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- Needs to develop guidelines, build up and enhance capacity on the environmentally sound interim storage of mercury, mercury compounds and wastes.
- Raise resources to develop, implement and monitor mercury related programs.
- Awareness generating and capacity building programs on monitoring of mercury .

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- Mercury monitoring program should be run with the support of APMMN.
- Capability development programs.
- Accreditation of Environment Laboratory.
- Developing some research program in the field of hazard Chemicals.
- Develop Collaboration with developing partners in order to develop knowledge and skill of staffs of the laboratory.

Idol with gold plated



Waste dumped in River side



**Thanks for
your attention!**