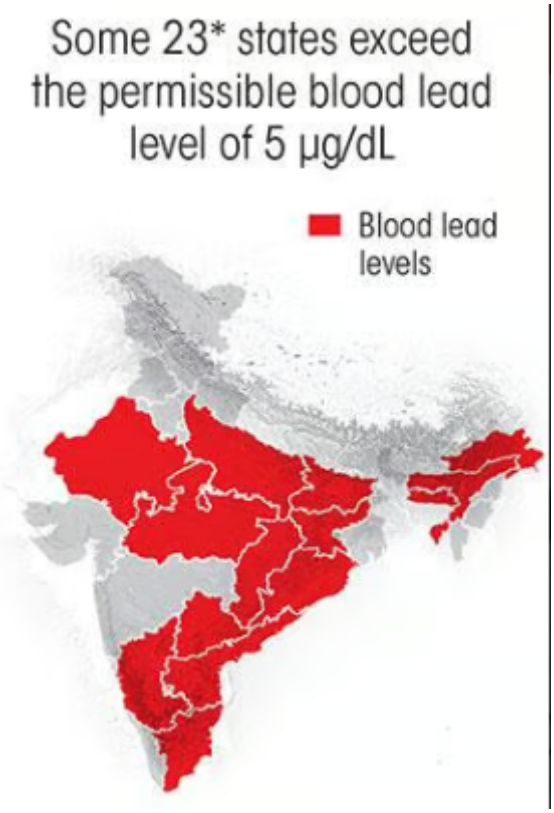
Lead Poisoning

Why in news?

India lacks a targeted, comprehensive legal framework to combat lead poisoning with India experiencing alarming levels of exposure.

What is lead poisoning?

- **Lead poisoning –** It occurs when toxic lead particles accumulate in the body, primarily through environmental and industrial exposure and it's also known as Plumbism and Saturnism.
- Lead can be ingested through mouth, inhaled through the respiratory system or absorbed by the skin, as per the World Health Organization (WHO).
- **Safe limit of lead exposure** – There is ***no known safe level of exposure to lead***.
- **Lead poisoning in India** - India bears the world's highest health and economic burden due to lead poisoning.
- According to the 2020 UNICEF report , 275 million children in India record blood lead levels of beyond the tolerable limit of ***5 µg/dL***.



- **Common sources of lead poisoning**

Occupational	Environmental	Others
• Lead smelters • Painter/decorators • Battery manufacturers • Stain-glass workers • Jewellery makers • Bronze workers etc	• Paint (walls, furniture) • Toys • Water • Food • Air (petrol, industry) • Dust/soil	• Traditional Medicine • Cosmetics lead shot • Lead glazed ceramics • Vehicular exhaust • Contaminated spices

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What are the impacts of lead poisoning?

- **Health effects –** Lead poisoning's health effects are severe and broad-reaching, affecting nearly every organ.
  - Impair cognitive development and behavioral issues.
  - Irreversible neurological damages.
  - Hypertension, kidney damage, and reduced fertility.
  - For pregnant women, exposure can lead to miscarriages, preterm birth, and birth defects.
- **Financial burden** – Increased dependency of affected population on social services, leads to economic burden.
- **Amplifies poverty cycles** – Those living in below poverty line often face higher risks of exposure due to proximity to industrial zones or reliance on lead-tainted products.
- **Affects labour markets** – It can reduce the productivity of labour and further impacts economic growth.
  - Productivity lost due to lead exposure in 2019 was $906 billion, equivalent to 0.68% of world GDP.
- **Consumer safety** – Increased risk to children as they are far more likely to ingest lead indirectly by chewing on toys or other objects with lead.



What are the challenges in combating lead poisoning?

- **Multiple exposure sources** - Sources of lead poisoning change from location to location, and there are usually multiple exposure sources in any given place.
- **Inefficient structural arrangement** – India's existing laws concerning lead are fragmented across multiple agencies which leads to inefficiency and inaction.

India's legal landscape includes nine pieces of primary legislation and nine pieces of subordinate legislation that touch upon various aspects of lead regulation.

- **Lack of coordination -** Existing Battery Waste Management Rules, 2022, remains ineffective due to lack of coordination.
- **Illiteracy** – Inadequate education among people in key pollution areas, affects the effectiveness of awareness creation.
- **Poverty** – It pushes the people to work in often harsh environment and exposed to lead.
- **Informal recycling** - More than 50% of all batteries in India are estimated to be recycled in the informal sector.

What are the international measures to combat lead poisoning?

- **Partnership for Lead-Free Future** – Headed by USAID and UNICEF, this partnership was

launched in 2024 to promote a lead-free environment by addressing pollution sources and fostering international cooperation.

- **Global Alliance to Eliminate Lead Paint(GAELP)** - It is a voluntary partnership formed by the United Nations Environment Programme (UNEP) and the World Health Organization (WHO) to prevent exposure to lead through promoting the phase-out of paints containing lead.
- **Basel convention** – This international treaty regulates the transboundary movement of hazardous wastes, including lead-containing materials, aiming to ensure safe disposal practices.
- **International lead poisoning prevention week –** It is organised by World Health Organization on October 20-26 to create awareness among the people about lead poisoning.

What measures are needed to combat lead poisoning?

- **Targeted measures** – Implementing a dedicated lead prevention law or enhancing current environmental and health regulations to comprehensively address lead sources—from production to disposal—is essential for cohesive action.
- **International obligations** – As India is a signatory to United Nations Environment Programme's (UNEP) efforts to eliminate lead in paint its laws need to be in line with their framework.
- **National surveillance** – Developing a national lead registry to monitor blood lead levels in vulnerable populations.
- **Regulatory impact assessments –** Conducting assessment of lead pollution both before and after implementation to ensure that the law is evidence-based and aligned with its objectives.
- **Identify and control lead sources** – Mapping areas prone to high lead exposure, such as industrial zones and urban slums.
    - Extending producer responsibility to manufacturers can ensure safer product lifecycle management.
- **Circular economy -** Recycling of lead-based products like car batteries and lead base products to reduce lead contamination.
- **Improve healthcare response** – Training health professionals to recognize lead poisoning symptoms, and routine screenings in high-risk populations.
    - Facilities such as Ayushman Bharat Arogya Kendras could incorporate lead testing.
- **Raise public awareness** – Collaborations with NGOs, schools, and media can inform communities about risks and prevention strategies.
- **Self-regulation through market forces** – Motivating industries to adopt safer practices through incentives such as subsidies and access to credit.

Reference

[The New Indian Express | Legal Framework to Combat Lead Poisonin]

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