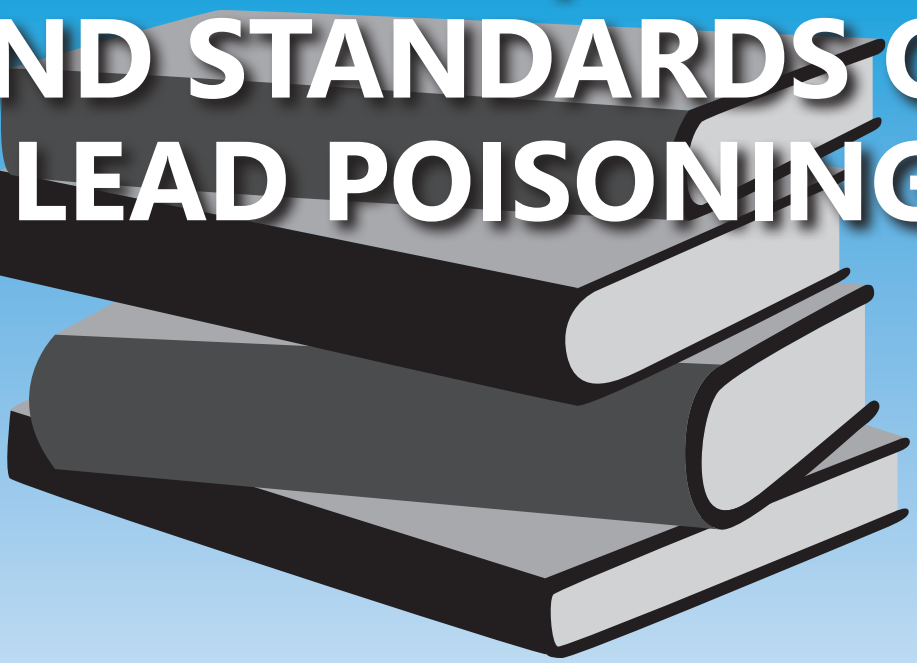
LANDSCAPE ANALYSIS ON

EXISTING LEGISLATION, POLICIES, AND STANDARDS ON LEAD POISONING



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Landscape Analysis on Existing Legislation, Policies, and Standards on Lead Poisoning

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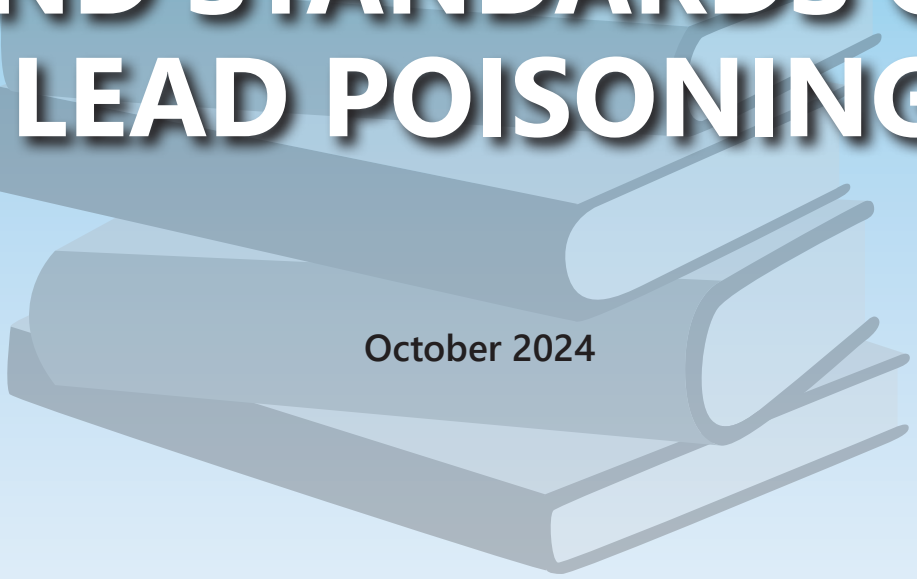

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TABLE OF CONTENT

Acronyms 4

EXECUTIVE SUMMARY 5

BACKGROUND ON LEAD POISONING 7

CHAPTER 1:

Policy, Regulatory and Institutional Framework Assessment 9

1.1 **Objective and Scope for the Review of Laws** 9

1.1.1 Objective 9

1.1.2 Scope 10

1.1.3 Need for the Review of Regulations 10

1.2 **Existing National Legislations** 11

1.2.1 Legal Instruments for Managing and Regulating Hazardous Chemicals (including Lead) 17

1.2.2 Non-regulatory Mechanisms for Managing Chemicals (including Lead) 20

1.3 **Institutional Framework for Managing Chemicals (including Lead)** 22

1.4 **Existing legislation on VAT/ Tax on lead-containing products in Bangladesh** 23

1.5 **International Treaties** 31

1.6 **Existing Legislations in International Context** 34

1.6.1 India 34

1.6.2 Sri Lanka 35

1.6.3 Indonesia 35

1.6.4 EU 35

1.6.5 USA 35

1.6.6 Vietnam 36

1.6.7 Ghana 36

1.6.8 Brazil 36

1.7 **International Tax Scenario** 37

CHAPTER 2:

Assessment of Current VAT/Tax Regulation and Recommendations for Improvement 38

2.1 Introduction 38

2.2 Current State of VAT/Tax Regulation 38

2.3 Identified Challenges 38

2.4 Gap Analysis 39

2.5 Scope of Improvement or Changes 40

2.6 Gap in Implementation 41

2.7 Recommendations 41

CHAPTER 3:

Green Tax 42

3.1 What is Green Tax? Why it is important to reduce Lead Poisoning? 42

3.2 Objectives of Tax Reform: 43

3.3 Overview of Environmental Taxation across the World: 43

3.4 Green Tax Practices Around the World: 45

CHAPTER 4:

CONCLUSIONS and RECOMMENDATIONS 50

4.1 Suggestions to Address Lead Pollution 50

4.2 Recommendations from Industry Associations 51

4.3 Recommendations from Battery Industry Associations 52

4.4 Overall Recommendations from the Other Stakeholders 53

REFERENCE 56

ANNEX-A 60

ACRONYMS

BLL: Blood Lead Levels

LAB: Lead Acid Battery

ULAB: Used Lead Acid Battery

MoEFCC: Ministry of Environment, Forest and Climate Change

DoE: Department of Environment

OECD: Organisation for Economic Co-operation and Development

ESM: Environmentally Sound Management

DLR: Dhaka Law Reports

CDM: Clean Development Mechanism

ICT: Information and Communication Technology

CD: Customs Duty

SD: Supplementary Duty

VAT: Value Added Tax

AIT: Advance Income Tax

AT: Additional Tax

RD: Recurring Deposit

LDCs: Least Developed Countries

ICCM: International Conference on Chemicals Management

SAICM: Strategic Approach to International Chemicals Management

GEF: Global Environment Facility

BAT: Best Available Techniques

BEP: Best Environmental Practice

SME: Small and Medium Entrepreneurs

BFSA: Bangladesh Food Safety Authority

EXECUTIVE SUMMARY

Lead is a potent neurotoxin known to induce severe health complications in humans, especially in young children. Even low levels of lead exposure can result in detrimental effects on the developing brains and bodies of children, making them particularly vulnerable. Adults are also susceptible to lead poisoning, but children are at a higher risk. The consequences of lead exposure in children can be permanent and extensive. Bangladesh faces a severe public health crisis due to lead poisoning in children. In Bangladesh, it is estimated that 35.5 million children are affected with blood lead levels above 5 µg/dL, making the country the fourth most-seriously hit in the world in terms of the number of children affected.[1]

In Bangladesh, the primary known and suspected sources of lead exposure encompass various industries such as leaded paints, lead acid battery manufacturing and recycling, jewelry crafting, gold waste processing, pesticide usage, coal mining, shipbreaking, turmeric production, aluminum cookware usage, paint (professional and academic uses), cosmetics, religious powders, amulets, and children's toys. Additionally, lead contamination has been detected in several common food items including vegetables, rice, milk, food colors, and animal meat, often attributed to the storage or processing practices prevalent in Bangladesh, as reported by UNICEF. However, this report specifically emphasizes the significance of leaded paints and used lead acid batteries as focal points of concern.

The persistence of lead in the environment and its toxic effects underscore the urgent need for transitioning to safer paint alternatives. Though Bangladesh Standards and Testing Institution (BSTI) has already established the specific standard for lead content in paint in Bangladesh is 90 parts per million (ppm) or lower to protect public health and the environment. However, the implementation and proper monitoring of this regulation are yet to be addressed. Also, there is still no standard for industrial paint.

1 https://www.unicef.org/bangladesh/en/press-releases/third-worlds-children-poisoned-lead-bangladesh-fourth-most-seriously-hit-terms#:~:text=In%20Bangladesh%2C%20it%20is%20estimated,the%20number%20of%20children%20affected.

Despite efforts to promote economic growth and industrialization in Bangladesh, the lead-based paint industry and the management of waste from lead acid batteries (LAB) pose significant environmental threats, endangering public health. Environmental policies and legislation to address lead poisoning from paint dust and waste batteries have not kept pace with the expansion of the paint and battery industries. While government authorities and environmental researchers acknowledge the environmental challenges posed by lead paints and waste LAB, policy implementation has been insufficient. Some measures have been taken to regulate the lead content in paints and improve waste battery management, albeit with limited effectiveness. This assessment highlights the environmental issues associated with lead paints and LAB in Bangladesh, scrutinizes existing environmental policies related to lead in paints, ULAB recycling, and LAB management, and considers VAT/tax incentives on lead-containing products as well as green practices adopted by battery and paint industries. Furthermore, the study will explore the potential impact of green taxes on reducing lead poisoning in Bangladesh.

Considering the urgent need to address the issue of lead poisoning from paints and battery industries, the study addresses the following major questions:

- What are the environmental problems associated with Lead Paints and ULAB in Bangladesh?
- What are the existing policies on Lead Paints, LAB, and ULAB recycling?
- What are the VAT/Tax regulations on Lead Paints, LAB, and ULAB recycling?
- What policies and regulations could be adopted to strengthen the management of lead contents in paint and ULAB recycling?
- Why green tax is needed to manage lead-containing products and how green tax will affect lead poisoning in Bangladesh?

The objective of this report is to gather pertinent data to offer a comprehensive overview of the present status of regulations; particularly VAT/Tax regulation on lead-containing products, focusing on lead-based paint industries and the management of used lead-acid batteries (ULAB) in Bangladesh. Additionally, it seeks to set a foundation for examining regulatory measures concerning lead paints and ULAB recycling.

BACKGROUND ON LEAD POISONING

Lead poisoning occurs when lead builds up in the body, often over a period of months or years. Even small amounts of lead can cause serious health problems. Lead is a naturally occurring element found in small amounts in the Earth's crust. However, human activity, such as mining, smelting, and the use of leaded gasoline and paint, and lead acid batteries has significantly increased lead exposure in Bangladesh.

Exposure to lead during childhood has been associated with mental health and behavioral issues, as well as a heightened likelihood of engaging in criminal activities and violence later in life. Additionally, older children face serious long-term health risks, such as an elevated chance of developing kidney damage and cardiovascular diseases. The economic impact of childhood lead exposure is substantial, particularly in lower- and middle-income nations, amounting to nearly USD $1 trillion due to the diminished economic prospects of affected individuals over their lifetimes.[2]

Moreover, lead has severe effects on the environment as well. Lead infiltrates and spreads throughout ecosystems. Lead from the atmosphere accumulates on vegetation, ground, and water surfaces. The physical and chemical characteristics of lead combined with the biogeochemical dynamics of ecosystems will have an effect on the spread of lead across ecosystems. Bangladesh is experiencing a growing public health crisis due to lead poisoning. The project will devise a plan with a specific timeline to tackle the issue. In order to comprehend lead poisoning in Bangladesh as a child rights issue, we must be able to visualize it, and this needs a multi-sectoral and urgent response to the environmental and health impacts.

2 https://www.unicef.org/bangladesh/en/press-releases/third-worlds-children-poisoned-lead-bangladesh-fourth-most-seriously-hit-terms

In an effort to address this issue, ESDO has collaborated with UNICEF on a project titled "Enhancing Children's Environmental Health, with a Special Emphasis on Combatting Lead Poisoning in Bangladesh." This initiative is focused on mitigating lead pollution by implementing regulatory reforms, raising awareness through campaigns, fostering stakeholder involvement, and enhancing capacity. The project places a strong emphasis on protecting the environmental well-being of children in Bangladesh.

This report is dedicated to comprehensively understanding the existing legislation or act regarding the VAT/Tax on the lead-containing products and the impact of changes in VAT/ tax incentives on lead-containing products, promoting greening practices, and addressing lead poisoning in Bangladesh.

CHAPTER 1:
Policy, Regulatory and Institutional Framework Assessment

ESDO has conducted a regulatory review, through analyzing Bangladeshi laws and referring to the regulations of other relevant countries and has also made recommendations for improvements regarding the paint industries and ULAB management. A detailed draft of the legal and regulatory framework of Bangladesh is provided in this report. These assessments have identified the gaps in the current regulatory and institutional framework that need to be addressed to ensure the environmentally sound management of chemicals, including lead acid battery waste and leaded paints.

1.1 Objective and Scope for the Review of Laws

1.1.1 Objective

The overall objective is to ensure the integrity of the environment and public health against the potential adverse impacts of lead containing along with the specific objectives to:

- Provide a current situation analysis of lead paint industries and the management of ULAB in Bangladesh.
- Establish a baseline for a policy and regulatory review on lead paint industries and LAB recycling, and the proper management of ULAB in Bangladesh.
- Refer to the regulations of relevant countries.
- Prepare recommendations for legislative improvements in the lead paint industries and LAB recycling and management rules of Bangladesh.

1.1.2 Scope

It provides an overview of the legislation regarding the lead paint and management of ULAB at various stages in the supply chain.

1.1.3 Need for the Review of Regulations

The Environment and Social Development Organization - ESDO in association with UNICEF has conducted research and analysis of the current situation and reviewed the existing practices for dealing with lead paints and ULAB at the national and regional levels. It is undeniable that a proper regulatory regime is needed to reduce lead poisoning from paints and ULAB sector. Moreover, there is a specific need to address:

(a) The Mismanagement of Recycling:

There is no proper management of and implementation of the Rules relating to LAB and ULAB in Bangladesh. There are gaps in the 'Lead-acid Battery Recycling and Management Rules, 2006' and the government has the power to enact such Rules efficiently under the Bangladesh Environment Conservation Act 1995, section 20 (C) which states that "Government can make Rules to determine the safe procedures for the use, storage and transportation of hazardous substances". However, this Rule has set some standards for lead battery usage, disposal and retailing procedures.

(b) Safe Handling of Toxic Component:

ULAB contains certain toxic components such as lead and dilute sulfuric acid, which are required to be handled safely but which is not properly addressed in Bangladesh.

a) Lack of Environmentally Sound Recycling Infrastructure:

The existing recycling procedures in Bangladesh are not environmentally sound. The major dismantling operations are undertaken by the informal sector in a unsafe and hazardous manner.

b) Public Health and Environmental Exposure:

According to the findings of the Global Burden of Disease Study by the Institute for Health Metrics, and Evaluation, in Bangladesh- more than 38,000 deaths annually are attributed to exposure to lead— nearly 4.3% of all deaths nationally, making Bangladesh one of the most severely lead-impacted countries on the earth.[3]

3 VizHub - GBD Compare (healthdata.org)

c) Lack of Clarity on VAT/Tax Incentives for Lead-containing Products:

The current VAT/tax system in Bangladesh operates under a uniform rate structure, lacking specific provisions for the environmental and health impacts of lead-containing products, such as lead paints and lead-acid batteries (LAB). While these items are subject to general tax rates, the absence of targeted measures fails to address the harmful effects of lead pollution on public health and the environment. Additionally, the lack of a distinct tax category for these products highlights a regulatory oversight.

1.2 Existing National Legislations

Bangladesh has a wide range of laws and regulations related to environmental protection and natural resources conservation, which will be relevant under this context. This Chapter has a summary of existing policies and regulatory frameworks (in place and under development) and relevant institutions involved in the Lead management in Bangladesh. It also provides a brief account of the existing gaps that need to be addressed to ensure compliance with the required actions for proper sustainable management.

The MoEFCC of the government of Bangladesh has already published a gazette on Used Lead- acid Battery (ULAB) Handling and Management Rules in 2006, where prior environmental certification before recycling any ULAB is mandated. It emphasizes that no outdated or ineffective battery can be stored or dumped in open ground, soil, water or waste disposal sites. It mentions that the battery users must handover used batteries to the dealers, retailers or distributors who are contracted with and to the government-certified recycling plants. The dealers, retailers or distributors must take the used batteries from the buyers when selling new batteries and send the ULAB to the certified recycling plants. Refusal to follow or comply with any of the above rules can result in sanctions. The government redrafted the 'Used Lead-acid Battery (ULAB) Handling and Management Rules' in 2018 and this latest draft is still under review to be updated by the concerned authority. It is also mentioned that in the case of importing batteries from abroad and at the beginning of the recycling process of an expired battery, taking permission from the MoEFCC is mandatory. Without its approval, the import and recycling of these batteries cannot begin. All LAB, either imported or local, must have written the Country Code Number, Serial Number, Company Code, Digital identification, and Bar Code Numbers onto the battery's body or case. The manufacturing company needs to receive a membership enrollment of the Accumulator of Battery Manufacturer and Exporters Association (BMB) and also prior taking of the 'No Objection Letter' from the ministry to start the recycling of ULAB.

The MoEFCC has published the National Environment Policy in 2018 which promotes the Polluter's Pay Principle, which holds the polluter liable for any infringement of the rules and

imposes fines to the polluter (personnel or the company). It recommends following the 3R Principle, that is 'reduce, reuse and recycle', while using any resource. It also mentions to secure the health and safety of the employees and staff working in an industry, brick kilns, laboratories, educational institutes, the quality of the surrounding air quality must be ensured. The Policy recommends initiating sanitary landfill instead of selecting any site adjacent to water bodies for dumping. It stresses upon doing an Environmental Impact Assessment (EIA) (where applicable) before setting up any industrial operation; promoting research on developing environmentally friendly technologies; promoting zero-emission from industries through reuse and recycle of water and also by offering financial incentives to make available the necessary raw materials for zero-emissions. It also emphasizes on: implementing an internal Clean Development Mechanism; installing waste treatment facilities by every industrial unit by taking necessary measures on health and safety; doing third-party environmental audits and simultaneous online monitoring; promoting green industries; creating mass awareness about the harmful environmental impacts of industrial waste. National Chemical Substance Management Policy mandates the environmentally sound management of chemical substances.

The Ministry of Environment, Forest and Climate Change (MoEFCC) of Bangladesh issued a new order (S.R.O No. 45-Act/2021) on February 25, 2021, updating regulations on battery recycling under the Bangladesh Environment Conservation Act, 1995. Key updates in this order from previous regulations include; Extended Producer Responsibility (EPR), requiring manufacturers and importers of lead-acid batteries to take responsibility for the entire lifecycle of their products (collection, recycling, and proper disposal of used batteries), Collection and Recycling Mandates for the companies involved in manufacturing and recycling lead-acid batteries are now required to appoint authorized dealers and agents responsible for collecting used batteries, Non-Objection Certificate (NOC) from the Department of Environment (DoE) to import lead-acid batteries, Importers of lead-acid batteries are required to enter into contracts with licensed battery recycling companies, and updated order sets stricter environmental standards for battery recycling processes to minimize environmental pollution and health hazards associated with improper handling and disposal of lead-acid batteries .

Under Part-II of the **'Fundamental Principles of State Policy'** of **'The Constitution of the People's Republic of Bangladesh',** Article 18A states that 'the State shall endeavor to protect, and improve the environment, and to preserve and safeguard the natural resources, biodiversity, wetlands, forests, and wildlife for the present and future citizens.' Thus, the constitutional provision shows the significance of environmental protection in Bangladesh. However, the fundamental principles of state policy (Article 8 to Article 25) are not judicially enforceable but 'shall be applied by the State in the making of laws, shall be a guide to the interpretation of the Constitution, and of the other laws of Bangladesh and

shall form the basis of the work of the state and of its citizens' which is mentioned in Article 8(2) of the Constitution. Therefore, all Laws and Rules should be made in consonant with the Constitution.

In 'Dr. Mohiuddin Farooque vs Bangladesh (1996) 48 DLR(HCD) (page 438)[4], the higher judiciary pronounced that the 'Right to life' is not limited to the protection of life and limb but extends to the protection of health maintenance, and improvement of the public health by creating, and sustaining conditions of good health.' In this case it is declared that "right to life" includes the right to fresh air and water and a situation beyond animal existence in which one can expect normal longevity of life. The case has referred Article 316[5] and Article 327[6] which are about safeguarding life and those Articles are judicially enforceable as fundamental rights under Part III of the constitution. Therefore, the state has the constitutional mandate to make Regulations regarding ULAB.

Though a directive on ULAB exists apart from ULAB, there are nickel, cadmium, and other battery chemistries used in domestic and commercial appliances, which should also be strictly managed. Besides, there is a need for a massive comprehensive awareness-raising program with an emphasis on the segregation of wastes at the household level to promote efficient battery management.

The National 3R (Reduce, Reuse, and Recycle) Strategy has been taken by the government, and it intends enacting appropriate rules and guidelines for 3R Separation of waste at source should be made mandatory and the industries need to pay (compensate) more for the generation of waste along with incentives for the generation of less waste as well as recycling should be introduced.[7]

A conducive policy package with strict regulation, together with incentives are required for the proper establishment of Environmental Management System (EMS) in the country. Awareness and capacity building programs along with cleaner technology transfer needs to be promoted.

4 https://elaw.org/resource/farooque-vs-government-of-bangladesh-wp-998-of-1994-ca-24-of-1995-1996-07-25-flood-action-plan-case

5 http://bdlaws.minlaw.gov.bd/act-367/section-24579.html

6 http://bdlaws.minlaw.gov.bd/act-367/section-24580.html

7 http://old.doe.gov.bd/publication_images/4_national_3r_strategy.pdf

Table 1: Major policies, Acts, and regulations related to waste lead and LAB management in Bangladesh.

Date	Title
	Policy
2018	**National Environment Policy** The policy promotes to reduce and ultimately phase-out of heavy metal (Lead, Mercury, and Chromium) uses in the Industrial Sector (Policy 3.15.7).
2011	National Science and Technology Policy This policy promotes national research activities for the development of the country. In this policy, research on "waste management" is emphasized under the area of "environmental science, and technology".
2010	**National Industrial Policy** This policy recommends the use of ESM and cleaner production practices amongst the industries, including waste lead management also.
2009	**National ICT Policy** This policy intends to adopt environment-friendly green technologies and to ensure safe disposal of toxic wastes through use of ICTs as environmental pollution is rising due to industrial and consumer wastes in Bangladesh. Its Theme 9.2 requires promoting entire environmental protection including land and water resources through the use of ICT tools.
2008	**National Renewable Energy Policy** This policy is promoting the production of biogas and other green energy from waste, and it also urges on providing incentives such as CDM to promote green energy projects.
2006	**National Urban Policy** CDM and recycling have been emphasized in this policy.
1998	**Urban Management Policy Statement** It recommends the municipalities for the privatization of services as well as giving priority to facilities for slum dwellers including the provision of fresh clean water supply, sanitation, and solid waste disposal.

Date	Title
	Acts
2018	**Bangladesh Standards, and Testing Institution Act**
2010	**Environment Court Act**
2006	**Bangladesh Information and Communication Technology Act**
2006	**Bangladesh Labour Act**
1995	Bangladesh Environment Conservation Act
	Rules
2015	**Bangladesh Standards, and Guidelines for Sludge Management** It recognizes lead and lead compounds as 'wastes having highly hazardous constituents'; requires initiating sludge treatment processes; and adds Lead batteries as hazardous waste under batteries and accumulators (1606)
2015	**Bangladesh Labour Rules** It directs to obtain environmental clearance certificate for waste disposal.
2011	**Hazardous Waste and Ship Breaking Waste Management Rules** The Rules enlisted ULAB and Unsorted used batteries in the hazardous material list, and also mentioned LAB plates and other lead scraps/ashes/ residues which are not covered under the Batteries (Management, and Handling) Rules, 2001.
2006	**Lead-acid Battery Recycling and Management Rules** This Rules provides how to manage LAB and ULAB, especially by the buyer and the seller.
2005	**National Solid Waste Management Handling Rules (Draft)** It directs applying the 3R principle.
1997	**Environment Conservation Rules** It provides the standards of environment and sets the emission level of various wastes along with requiring to prepare EMP, doing IEE and EIA for specific activities in order to get environmental clearance certificate.

Date	Title
2019	**Draft E-waste Management Rules,** It covers various E-waste management issues including all kinds of electronic use components which are hazardous to health, and environment.
	Strategy
2010	**National 3R Strategy for Waste Management** LAB recycling by the formal and informal sectors and battery buy back for recycling are mentioned in it.
2009	Bangladesh Climate Change Strategy, and Action Plan This strategy emphasizes on taking actions by the government for the priority areas to combat climate change.
2005	**National CDM Strategy (Draft)** This strategy is promoting pro-poor CDM projects in the waste sector by harnessing carbon financing.
2005	**Poverty Reduction Strategy Paper (PRSP)** It promoes ESM. To improve the solid waste management situation with a special focusing on the segregation of waste at source along with promoting recycling, reduction and reuse of industrial and other solid waste, etc.
	Action Plan
2005	Dhaka Environment Management Plan Waste recycling has been promoted, less landfilling encouraged, ESM promoted among industries.
2005	**Solid Waste Management Action Plan for Eight Secondary Towns in Bangladesh** Under the Secondary Towns Integrated Flood Protection (Phase-2) Project of Local Government Engineering Department, this action plan was initiated. It emphasizes on the 4 R principle i.e., reduce, reuse, recycle and recovery of the waste.

Date	Title
1995	**National Environnemental Management Action Plan (NEMAP)** 3R Principle was promoted under the Sustainable Environment Management Programme (SEMP) of NEMAP.
	Other
2004	**Dhaka Declaration on Waste Management by SAARC countries** SAARC countries agree to encourage NGOs and private companies to establish community-based composting, segregation of waste at source, separate collection, and resource recovery from wastes with a particular focus on composting. These wastes include e-waste also.

1.2.1 Legal Instruments for Managing and Regulating Hazardous Chemicals (including Lead)

Bangladesh Environment Conservation Act (ECA), 1995

This Act is currently the main legislative framework document relating to environmental protection in Bangladesh and empowers the Department of Environment (DoE) to implement it. As per Section 4, the Director-General (DG) may take such measures as he considers necessary and expedient for the conservation of the environment, improvement of environmental standards, and for the control and mitigation of environmental pollution. For that, he may issue any necessary directions in writing to any person to discharge his duties under this Act; can give advice or issue directions regarding the environmentally sound use, storage transportation, export or import of hazardous substances (including lead and lead products). Section 6C directs to control the production, storage, transport, and disposal, etc. of hazardous waste; and the term 'hazardous waste' means, as per section 2(aaa), any kind of waste, due to its physical or chemical properties or contraction with other waste or substances that create toxicity, infection, oxidation, exploration, radioactivity, decay or other harmful effects to the environment.

Section 7 directs on taking the remedial measures and compensation for damaging the eco- system; and section 9 compels the person who is emitting excessive pollutants to mitigate the same. In the event of accidental pollution, the DG may take control of the

operation, and the respective operator is bound to help. The operator is bound to incur any costs for rectification and possible payments for compensation. The DG is in charge of issuing environmental clearance; can fine/penalize a company or person for emissions the exceed the standards or causing harm to the ecosystem, can take steps to identify contaminated sites for the protection of public health, can conduct research, collect, and publish/disseminate information for awareness, and provide education. Section 15 provides various penal provisions for non- compliance of any directions. The penalty for violating section 6C is fine of taka 2 to 10 lacs or imprisonment of 2 to 10 years or both.

Thus, this Act addresses many aspects of the environmental issues through its provisions including:

a. Declaration of ecologically critical areas, and restrictions on the operations and processes which can be carried or cannot be initiated in the ecologically critical areas;

b. Regulation in respect of vehicles emitting smoke harmful to the environment;

c. Environmental Clearance;

d. Power to entry and collect samples to assess standards for the quality of air, water, noise, and soils for different areas and for different purposes; and

e. Formulation of rules and declaration of environmental guidelines.

Environment Conservation Rules (ECR), 1997

The ECR 1997 is adopted under the ECA 1995. It details out the procedure of obtaining and renewal of "Environmental Clearance Certificate" for any industrial or other operations by categorizing activities under different color codes, namely Green, Orange-A, Orange-B and Red. For Orange-B and Red category operations, it is required to prepare and submit the EMP, IEE and EIA for the clearance from DoE. It also sets standards of the quality of air, water and noise and also mentions various waste emission limits, especially of atmospheric emissions of lead for industrial operations. There is plenty of scope to make Rules for the management of ULAB either under this Rules or through a separate rule.

Hazardous Waste and Ship-breaking Waste Management Rules, 2011

It has also been made under the ECA 1995. Lead and lead-based compounds have been recognized as hazardous substances under these Rules. It asserts that hazardous waste generating industries:

a. cannot dispose or sell their waste to anyone who does not have clearance,

b. cannot store waste for more than 90 days, and

c. must provide an annual report to the Director of the Waste Management Cell of DoE.

Rule 2 has defined 'Hazardous wastes/Material as waste and also directs to follow the definitions of ECA 1995. This rule also conceives the establishment of a national committee on hazardous waste management, which will be responsible for determining the standards for the disposal of hazardous wastes, and for formulating policies on the sound management of hazardous waste.

Bangladesh Labor Act, 2006 and Rules, 2015

The law and its Rules oblige the employer to take measures for waste disposal, provide safety equipment to the workers. The Rules 2015 requires obtaining clearance certificate from relevant authorities and to follow the ECA 1995 for environmental management. It has hazard exposure mitigation, training sessions and hazard minimization options.

Bangladesh Import Policy Order, 2015-2018

It has two parts. The Part A (List of controlled goods) states the types of banned and allowable insecticides/pesticides that can be imported. The Part B (List of prohibited goods) provides a list of the chemical insecticides, and industrial chemicals under the Stockholm Convention on Persistent Organic Pollutants (POPs) which are prohibited to import.

Bangladesh Standards, and Testing Institution Act, 2018

The BSTI sets out standards as to whether the product is suitable for local consumption, import and export. Many of Bangladesh's Standards for lead-added products (LAB, paints, etc.) have also set limits on the allowable concentration of mercury to be used.

Right to Information Act, 2009

This law allows a citizen to request and get public information from any government agency. The government agencies are required to appoint a Designated Public Relations Officers (DO or PRO) to fulfill such requests within a required time frame.

The Food Safety Act of Bangladesh, enacted in 2013, addresses the use of food colors and the presence of heavy metals in food. Here are the key provisions related to these topics:

Bangladesh Food Safety Act, 2013

Food Colors:

The Act strictly regulates the use of food colors, ensuring that only approved substances are used in the specified amounts. Any food item containing unapproved or excessive levels of food colors is considered adulterated and is prohibited. This is outlined to prevent health risks associated with harmful additives.

Heavy Metals:

The Act prohibits the contamination of food with heavy metals, which are defined as substances harmful to human health when present in food beyond permissible limits. Specifically, Chapter V of the Food Safety Act, 2013, includes provisions to prevent the addition of heavy metals, pesticides, growth promoters, and other harmful substances during food production and processing.

The Bangladesh Food Safety Authority (BFSA) is tasked with monitoring and ensuring that food products comply with these standards. This includes setting permissible limits for various contaminants, including heavy metals, and enforcing regulations to keep food products safe for consumption.

1.2.2 Non-regulatory Mechanisms for Managing Chemicals (including Lead)

National Environment Policy, 2018

The Environment Policy, 1992 is replaced by the new one in 2018. The major objectives of the current Environment Policy are to:

i. maintain an ecological balance, and overall development through protection, and improvement of the environment;

ii. protect the country against natural disaster;

iii. identify and regulate activities, which pollute and degrade the environment;

iv. ensure environmentally sound development in all sectors;

v. ensure sustainable, long term environmentally sound base of natural resources; and

vi. actively remain associated with all international environmental initiatives to the maximum possible extent.

The policy highlights public-private partnership for implementing strategies on environmental protection; promotes mass awareness for environmental protection; and identifies the scope for international, and multilateral cooperation in environmental science, research, and clean technology transfer. The policy also promotes to reduce and ultimately phase-out the use of heavy metal (Lead, Mercury and Chromium) in the Industrial Sector (Policy 3.15.7).; emphasizes prohibiting all activities which are harmful to public health and the environment (Policy 3.6.1); directs reflecting the provisions of the "Stockholm Convention, Minamata Convention, Basel Convention, Rotterdam Convention

and Montreal Protocol", in the National Regulations (Policy 3.22.5). This Policy has given instructions to reduce other pollutants, such as radiation pollution (Policy 3.23.2) and chemical pollution (Policy 3.23.6); and to use 3R (reduce, reuse, and recycle) strategy for electronic waste management/E-pollution (Policy 3.27.7). It also instructs to make laws and regulations according to the needs of modern times to resolve environmental problems effectively (Policy 4.1). It has instructions to follow international conventions and make laws accordingly (Policy 4.4). The has been adapted to provide compliance to the provision of 18A of the Constitution of Bangladesh (Policy 6.0). This Policy provides a chart for the "Implementation Plan/Activities" of various sectors to comply with the various policies mentioned in it. Accordingly, importation of chemical substances and manufacturing procedures will be monitored by the Ministry of Food, Ministry of Commerce, Ministry of Industries, BSTI, Food Department, Directorate of National Consumer Rights Protection, DoE and Ministry of Civil Aviation and Tourism. (Chart 3.22.1) The implementation of the Stockholm Convention, Minamata Convention, Basel Convention, Rotterdam Convention, and the Montreal Protocol should be initiated by the Ministry of Foreign Affairs, MoEFCC, Ministry of Industries and DoE (Chart 3.22.4). Furthermore, this Policy has been adopted to give a definite shape to the country's legal framework and this will be observed by the MoEFCC, Ministry of Law, Justice and Parliamentary Affairs, and other relevant ministries (Chart 4.1).

National 3R Strategy for Waste Management, 2010

It has emphasized the responsibility of industries to explore options/opportunities of reusing, recovering, and recycling of hazardous waste in an environmentally sound manner. It states that the DoE will develop an online tracking system for the movement of hazardous waste from generation to disposal/ recovery/ recycle stage. LAB recycling by formal, and informal sectors and battery buy back for recycling are mentioned in this strategic plan.

Bangladesh Standards and Guidelines for Sludge/Slag Management, 2015

It provides guidelines on the limits of use of lead in the sludge/slag as compost/fertilizer (900 mg/kg in sludge and 100 mg/kg in soil), and the testing of lead in all types of sludge before their disposal so that they conform to the disposal limits.

National Health Policy, 2011

This Policy aims to ensure the provision of basic health care services to all levels of the population in Bangladesh as required by the Constitution of Bangladesh. It requires to create awareness on the adverse health effects of lead exposure through conducting educational and prevention programs.

National Industrial Policy, 2010

The Policy directs the government to create awareness among the society on environmental protection, pollution, dumping of hazardous material (including lead) on land and water.

1.3 Institutional Framework for Managing Chemicals (including Lead)

The Ministry of Environment, Forests and Climate Change (MoEFCC)

The MoEFCC is responsible for ensuring environment conservation within the country. It is obligated to implement relevant legal instruments pertinent to environmental management. To achieve this objective, the Ministry's role is to create an enabling environment through policy and regulatory reforms for ensuring sound environmental, and natural resources management.

Department of Environment (DoE)

The DoE under the MoEFCC, according to the ECA1995, is nationally mandated to undertake various measures including giving advice, issuing directions to concerned persons regarding the environmentally sound use, storage, transportation, import, and export of a hazardous substance or its components. The mandate of the Department has expanded over time, evolving from an exclusive focus on pollution control to include natural resources, and environmental management, and now covering:

a. monitoring of the environmental quality,

b. promoting environmental awareness through public information programs,

c. controlling, and monitoring of the industrial pollution,

d. reviewing environmental impact assessments, and managing the environmental clearance process; and,

e. establishing regulations and guidelines for activities affecting the environment.

Bangladesh Standards and Testing Institution (BSTI)

The Government of Bangladesh has established the Bangladesh Standards, and Testing Institution (BSTI) under the Ministry of Industries in 1985. It is statutorily entrusted to test

and assess the standard of various products under the BSTI Act of 2018, specifically with the responsibility to formulate national Standards for industrial, food and chemical products whilst keeping in view the regional and international standards. In 2018, the BSTI finalized a standard for the paint manufacturing industry setting the limit for harmful lead content of household paint at a maximum of 90 ppm (parts per million) which makes Bangladesh the only country with a mandatory standard for Lead Paint in South – East Asia.

Import and Export Control Department

This Department is under the Ministry of Commerce to regulate matters concerning exports and imports. It issues export and import certifications, advises the government on trade and tariffs. Besides, the Ministry of Commerce is accountable for the regulation and implementation of policies applicable to domestic and foreign trade.

National Board of Revenue (NBR)

The main accountability of the NBR is to collect tax revenues (primarily, Value Added Tax, Customs Duty, Excise Duty and Income Tax). It is responsible for the inspection of all chemical imports, record keeping of volumes and quantities of imported products into Bangladesh. It keeps a database of all legally imported products including lead, lead compounds (Comtrade). Its database can be shared with relevant agencies to keep track of all the lead/lead compounds uses within the country.

Directorate General of Health Services (DGHS)

Under the Ministry of Health and Family Welfare, the main duties of this Directorate are the implementation of different health programs, health management, planning and the execution of different policies through administration. It encourages the development and implementation of strategies to identify and protect populations at risk, such as developing guidelines for occupational health hazards in battery recycling facilities.

1.4 Existing legislation on VAT/ Tax on lead-containing products in Bangladesh

In Bangladesh, the fiscal year 2023–24 maintains a standard value-added tax (VAT) rate of 15% across a broad array of products and services, inclusive of import and supply activities, while exports benefit from a 0% VAT rate. Importantly, there are no specialized VAT variations specifically addressing products containing lead.

The National Board of Revenue (NBR) of Bangladesh enforces VAT, tax, and customs duties on both the importation of raw lead and lead-incorporated products such as paints and batteries, according to the customs tariff list. Despite this, there lacks a targeted regulatory framework for mitigating the environmental and health risks associated with lead, contrasting with the specific policies in place for tobacco products aimed at public health protection.

Tax Holiday:

Tax incentives are available in the form of tax holidays ranging from 5 to 12 years depending on the development status of the industrial area, as determined by the NBR.[8] These incentives, however, do not extend to industries producing lead-free alternatives, indicating a gap in encouraging safer environmental practices.

List of Eligible Sectors for Tax Holiday: [Section 46B][8]

(i) Industrial Undertaking Eligible for Tax holiday:

(a) Active pharmaceuticals ingredient industry and radiopharmaceuticals industry;

(b) Barrier contraceptive and rubber latex;

(c) Basic chemicals or dyes and chemicals;

(d) Basic ingredients of electronic industry (e.g. resistance, capacitor, transistor, integrator circuit);

(e) Bio-fertilizer;

(f) Biotechnology;

(g) Boilers;

(h) Compressors;

(i) Computer hardware;

(j) Energy-efficient appliances;

(k) Insecticide or pesticide

(ii) Physical Infrastructure Eligible for Tax Holiday:

(a) Deep sea port;

(b) elevated expressway;

8 https://www.projectsprofile.com/info/financial_three.html#:~:text=Tax%20holiday%20is%20allowed%20to,and%20special%20economic%20zones%20respectively

(c) Export processing zone;

(d) Flyover;

(e) Gas pipeline,

(f) Hi-tech park;

(g) Information and Communication Technology (ICT) village or software technology zone;

(h) Information Technology (IT) park;

(i) Large water treatment plant and supply through pipe line;

(j) Liquefied Natural Gas (LNG) terminal and transmission line;

(k) mono-rail;

(l) Rapid transit;

(m) Renewable energy (e.g. energy saving bulb, solar energy plant, windmill);

(n) Sea or river port;

(o) Toll road;

(p) Underground rail;

(q) Waste treatment plant; or

(r) Any other category of physical infrastructure facility as the Government may, by notification in the Official Gazette, specify

The above list indicates that there is no tax holiday for lead-free products.

NBR Tariff Schedule:

The NBR's tariff schedule lists various items containing lead, specifying the customs duties applicable upon import. Notably, these duties are standard for imports and do not reflect any particular emphasis on the presence of lead. Items such as paints, varnishes, glassware, and electronic components with lead content are all subjected to the general customs charges, which are mostly set at 25% for imports while exports generally remain duty-free.[9]

Overall, while Bangladesh implements standard tax and customs regulations on lead-containing products, there is an evident absence of policies specifically aimed at curtailing the use of lead to better safeguard environmental and public health.

9 National Board of Revenue (NBR), Bangladesh

Heading (Chapter of Tariff Schedule)	H.S code	Description	CD	SD	VAT	AIT	RD	AT
26.07	2607.00.00	Lead ores and concentrates	5	0	15	5	0	5
26.20	2620.21.00	Slag, ash, and residues (other than from the manufacture of iron or steel), containing arsenic, metals, or their compounds. Leaded gasoline sludges and leaded anti-knock compound sludges (leaded gasoline sludges and leaded anti-knock compound sludges" mean sludges obtained from storage tanks of leaded gasoline and leaded anti-knock compounds (for example, tetraethyl lead), and consisting essentially of lead, lead compounds, and iron oxide)	5	0	15	5	0	5
28.24	2824.10.00	Lead oxides; red lead and orange lead. - Lead monoxide (litharge, massicot)	10	0	15	5	0	5
	2824.90.10	Red Lead	5	0	15	5	0	5
	2824.90.20	Red Lead Oxide	5	0	15	5	0	5
	2824.90.90	Other (Excl. Red Lead)	10	0	15	5	0	5
29.31	2931.10.00	Tetramethyl lead and tetraethyl lead	5	0	15	5	0	5
32.08	3208.10.10	Paints and varnishes (including enamels and lacquers based on synthetic polymers chemically modified natural polymers, dispersed or dissolved in a non-aqueous medium) imported by Bangladesh Biman, flying club, concerned Government Department and Industrial IRC holder VAT compliant manufacturer as raw material for their product	25	20	15	5	3	5

Heading (Chapter of Tariff Schedule)	H.S code	Description	CD	SD	VAT	AIT	RD	AT
	3208.90.30	Coating materials imported by Industrial IRC holder VAT compliant cooking ware manufacturers	25	0	15	5	3	5
32.09	3209.10.10	Paints and varnishes (including enamels and lacquers based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in an aqueous medium) imported by Bangladesh Biman, flying club, concerned Government Department and Industrial IRC holder VAT compliant manufacturer as raw material for their product	25	20	15	5	3	5
32.11	3211.00.00	Prepared driers.	10	0	15	5	0	5
32.12	3212.10.00	Pigments (including metallic powders and flakes) dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints (including enamels); stamping foils; dyes and other colouring matter put up in forms or packings for retail sale	10	0	15	5	0	5
38.11	3811.11.00	Anti-knock preparations, oxidation inhibitors, gum inhibitors, viscosity improvers, ant-corrosive preparations and other prepared additives, for mineral oils (including gasoline) or for other liquids used for the same purposes as mineral oils. - Based on lead compounds	5	0	15	5	0	5

Heading (Chapter of Tariff Schedule)	H.S code	Description	CD	SD	VAT	AIT	RD	AT
[70.12] 70.13	7013.22.00	Stemware drinking glasses other than of glass-ceramics of lead crystal	25	45	15	5	3	5
	7013.33.00	Other drinking glasses, other than of glass ceramics of lead crystal	25	45	15	5	3	5
	7013.41.00	Glassware of a kind used for table (other than drinking glasses) or kitchen purposes other than of glass-ceramics of lead crystal	25	45	15	5	3	5
	7013.91.00	Other glassware of lead crystal	25	45	15	5	3	5
72.10	7210.20.00	Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, clad, plated or coated with lead, including terne- plate, Electrolytically plated or coated with zinc	25	0	15	5	10	5
78.01	7801.10.00	Unwrought lead -Refined lead -Other	5	0	15	5	0	5
	7801.91.00	Containing by weight antimony as the principal other element	5	0	15	5	0	5
	7801.99.00	Other	5	0	15	5	0	5
78.02 [78.03]	7802.00.00	Lead waste and scrap	5	0	15	5	0	5
78.04 [78.05]	7804.11.00	Lead plates, sheets, strip and foil; lead powders and flakes. - Plates, sheets, strip and foil -Sheets, strip and foil of a thickness (excluding any backing) not exceeding 0.2 mm	25	0	15	5	3	5
	7804.19.00	Other	25	0	15	5	3	5
	7804.20.00	Powders and flakes	10	0	15	5	0	5
78.06	7806.00.10	Other articles of lead. Parts for machinery	10	0	15	5	0	5

Heading (Chapter of Tariff Schedule)	H.S code	Description	CD	SD	VAT	AIT	RD	AT
	7806.00.90	Other	10	0	15	5	0	5
85.07	8507.10.00	Electric accumulators, including separators therefor, whether or not rectangular (including square) - Lead-acid, of a kind used for starting piston engines -Other lead-acid accumulators	25	20	15	5	3	5
85.49	8549.11.00	Waste and scrap of lead-acid accumulators; spent lead-acid accumulators'	25	20	15	5	3	5
	8549.12.00	Other, containing lead, cadmium or mercury	25	20	15	5	3	5
	8549.13.00	Sorted by chemical type and not containing lead, cadmium or mercury	25	20	15	5	3	5
	8549.14.00	Unsorted and not containing lead, cadmium or mercury	25	20	15	5	3	5
	8549.31.00	Containing primary cells, primary batteries, electric accumulators, mercury switches, glass from cathode ray tubes or other activated glass, or electrical or electronic components containing lead or polychlorinated biphenyls (PCBs)	25	0	15	5	3	5
96.09	9609.10.00	Pencils and crayons, with leads encased in a sheath	10	0	0	5	0	5
	9609.20.00	Pencil leads, black or colored	10	0	15	5	0	5

The table outlines the customs duty rates for various products imported into Bangladesh, which include several categories of goods that contain lead. Here's a structured narrative description of the key entries:

Paints and Varnishes:

Products such as paints and varnishes containing synthetic or natural polymers, whether dispersed in non-aqueous or aqueous media, specifically imported by entities like Bangladesh Biman, flying clubs, government departments, and VAT-compliant manufacturers, carry a customs duty rate of 25% upon import, with exports being duty-free.

Coating Materials:

Coating materials imported by VAT-compliant cooking ware manufacturers also attract a 25% customs duty rate, with no export duty.

Prepared Driers and Pigments:

Items like prepared driers and pigments used in the paint industry have a lower customs duty of 10% on imports, again with exports being duty-free.

Glassware:

Various types of glassware, including stemware, other drinking glasses, and other glassware used for table or kitchen purposes not made from glass-ceramics but including lead crystal, are levied a 25% duty on imports.

Lead-Containing Products:

- Lead lights, glass cubes for mosaics, and flat-rolled steel products coated with lead are charged 25% on imports.
- Unwrought lead and its alloys have a 25% customs duty, with some variations depending on additional elements like antimony.
- Lead waste and scrap have a significantly lower duty rate of 5%.

Lead in Electronics and Other Applications:

- Lead-acid accumulators and related components for starting engines and other applications carry a 25% customs duty.
- Waste and scrap from lead-acid accumulators, regardless of content specifics (like containing lead, cadmium, or mercury), are subject to a 25% duty on imports.

Miscellaneous Lead-Containing Items:

- Lead plates, sheets, strips, foils, powders, and flakes used in various industries are subject to duties ranging from 10% to 25%.

- Electrical components containing lead or PCBs also attract a 25% import duty.

  Although NBR doesn't have any product categories, it uses a globally recognized HS code that no country may alter.

1.5 International Treaties

SAICM

ICCM2 was the first opportunity to review progress in the implementation of SAICM since its adoption in 2006 and the first time the ICCM performed its official functions as a high-level international forum for multi-stakeholder and multi-sectoral discussion and exchange of experience on chemicals management issues. ICCM2 evaluated SAICM implementation so far, addressed emerging policy issues (nanotechnology, chemicals in articles, lead in paint, and electronic waste), considered long-term financing of SAICM, took strategic decisions on the future direction of SAICM, determined future reporting arrangements, finalized certain outstanding institutional matters, exchanged scientific and technical information and decided on the budget and activities for the next inter-sessional period.[10]

SAICM GEF Project - Lead in Paint component

The lead in paint component is part of the SAICM Global Environment Facility (GEF) project, which focuses on addressing emerging chemical policy issues under the Strategic Approach to International Chemicals Management. Alongside components concerning chemicals in products and knowledge management, the project aims to achieve two main outcomes:

- Facilitating legislation in 40 countries to restrict the use of lead paint.
- Encouraging at least 50 small and medium enterprises (SME) paint manufacturers in eight countries to phase out lead from their production processes.

The lead in paint component collaborates with governments to develop lead paint laws and supports SMEs in transitioning away from lead additives. Nationally tailored interventions will demonstrate the adoption of non-lead alternatives using Best Available Techniques (BAT) and Best Environmental Practice (BEP) in SME paint production.

By coordinating efforts globally with governments and regional standard-setting organizations, the project seeks to expedite the adoption of legal limits on lead in paint.[11]

10 https://www.saicm.org/About/ICCM/ICCM2/tabid/5966/Default.aspx

11 https://www.saicm.org/Implementation/GEFProject/LeadinPaintComponent/tabid/7801/Default.aspx

Basel Convention

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, commonly known as Basel Convention, is an international treaty that is designed to control and minimize any unnecessary movements of hazardous waste between nations and specifically, the Ban Amendment prevents the transfer of hazardous waste from the developed to the least developed countries (LDCs).

There is a scope to revise and update the Basel Technical Guidelines to improve the recycling of ULAB containing procedures for protecting human health and the environment and through 'which its member countries can be obliged to ensure that such wastes are managed and disposed of in an environmentally sound manner. As Bangladesh is a signatory to Basel Convention[12], the government can adopt its relevant provisions into national legislations from the Basel Annex-VIII of hazardous waste lists, the following applicable entries are pertinent to LAB:

- A1020 Waste having as constituents or contaminants of, excluding metal waste in massive form, any of the following: antimony compounds, beryllium, beryllium compounds, cadmium, cadmium compound, lead, lead compounds, selenium, selenium compounds, tellurium, tellurium compound.
- A1160 Waste LAB, whole or crushed.
- A1170 Unsorted waste batteries excluding mixtures of only list B batteries. Waste batteries not specified on list B containing Annex I constituents to an extent to render them hazardous. [Note: List B batteries include waste batteries conforming to a specification, excluding those made with lead, cadmium or mercury].
- A1180 Waste electrical and electronic assemblies or scraps containing components such as accumulators and other batteries included in list A, mercury- switches, glass from cathode ray tubes and other activated glass, PCB- capacitors or contaminated with PCB.
- Annex 1 Constituents (e.g., cadmium, mercury, lead, PCB) to an extent that they exhibit hazard characteristics contained in Annex III.
- B1020 Clean, uncontaminated metal scrap, including alloys, in bulk finished form (sheet, plate, beams, rods, etc.) of Antimony scrap, Beryllium scrap, Cadmium scrap, Lead scrap (but excluding LAB), Selenium scrap, Tellurium scrap.

12 http://www.basel.int/?tabid=4499

- B1090 Waste batteries conforming to a specification, excluding those made with lead, cadmium or mercury.[13]

According to Brian Wilson, the Consultant of International Lead Association (ILA) – "The Basel Convention was never intended to reduce the import and export of hazardous waste, its initial intention was to control the movement so that it was environmentally sound. Not every country has the facilities to dispose of or recycle hazardous waste and so regional solutions are required and contained as part of the Basel Convention. What is clear under Article 4 is that if a country has the necessary environmentally sound facilities to treat a hazardous waste – then that waste should not be exported. It is also illegal to send a hazardous waste to a country without the required treatment plants. This is now even stricter since the adoption of the Ban Amendment. Unfortunately, as years have passed some governments have misinterpreted the terms of the Convention and restricted movements that are necessary leading to a domestic informal sector operation."

The Model Law Guidance for Lead Paint[14]

The Model Law Guidance for Lead Paint typically addresses various aspects related to lead paint standards, aiming to provide a framework for legislation or regulation in this area. Here are some common topics it may cover:

1. **Definition of lead paint:** Clear definition of what constitutes lead paint, including acceptable thresholds of lead content in paint products.
2. **Prohibition:** Outlining the prohibition or restriction of the manufacture, sale, distribution, or use of lead paint above certain specified levels.
3. **Testing and certification:** Establishing requirements for testing and certification of paint products to ensure compliance with lead content standards.
4. **Labeling:** Mandating clear labeling of paint products to indicate whether they contain lead and, if so, the concentration of lead present.
5. **Exemptions:** Specifying any exemptions or special provisions, such as for certain industrial uses or historical preservation projects, where lead paint may still be used under controlled conditions.
6. **Enforcement:** Providing mechanisms for enforcement, including inspections, penalties for non-compliance, and procedures for remediation or mitigation of lead hazards.

13 http://archive.basel.int/press/archive/recycling%20of%20old%20batteries%20english.pdf

14 https://www.scribd.com/document/484482675/Model-Law-Guidance-Lead-Paint

7. **Public education and awareness:** Promoting public education and awareness campaigns to inform homeowners, contractors, and others about the risks of lead paint exposure and the importance of compliance with standards.

8. **Coordination with other laws:** Ensuring alignment with other relevant laws and regulations, such as those related to environmental protection, occupational health and safety, and consumer product safety.

Overall, the Model Law Guidance aims to establish comprehensive and effective measures to minimize the risks associated with lead paint exposure and protect public health and the environment.

1.6 Existing Legislations in International Context

In many countries, there are specific laws and regulations relating to lead and ULAB. The 'Training Manual for the preparation of national used lead-acid batteries environmentally sound management plans in the context of the implementation of the Basel Convention' is the most appropriate guiding document and is followed by many countries. Depending on the situation, different countries have different legislations for ULAB management. A few of the major ULAB recycling countries have been mentioned below, and the links of these regulations are added in ANNEX-A:

1.6.1 India

The Ministry of Environment, Forests and Climate Change of India has adopted the Batteries (Management and Handling) Rules in 2001 and later amended in 2010. It is applied to every manufacturer, importer, reconditioners, assembler, dealer, recycler, auctioneer, consumer, and bulk consumer involved in the manufacture, processing, sale, purchase, and use of batteries or components thereof. In 2020, the Indian Central Government has drafted another proposed set of Rules for battery management, in exercising the powers conferred by sections 6, 8, and 25 of the Environment (Protection) Act, 1986 (29 of 1986), titled as "Battery Waste Management Rules, 2020".

This draft Rules have comprehensively determined the waste management and handling procedures of battery and also about the sectors involved in the process as well as responsible agencies, EPR authorization and responsibilities of various actors. The draft also suggests import, export, collection, customer clearance, registration and certification procedures. However, the current Rules and the proposed 2020 do not include a monitoring regime that provides for regular onsite inspections and environmental, health and safety audits.

1.6.2 **Sri Lanka**

The Minister of Environment and Natural Resources, Sri Lanka has framed regulations on batteries containing lead, mercury, nickel, cadmium, lithium, and electrolyte from batteries and accumulators, titled the 'National Environmental (Protection, and Quality) Regulations, No. 1 of 2008. In addition, Sri Lanka has a set of 'Technical Guidelines on the Management of Used Lead-acid Batteries' authorized by Central Environmental Authority in August 2005 under the Ministry of Environment and Natural Resources. Under the same regulation, the government has another safe management guideline on 'Guidelines for the Management of Scheduled Waste in Sri Lanka', which also mentions battery management protocols.

1.6.3 **Indonesia**

The Government Regulation of the Republic of Indonesia no.18/1999 on the Management of the Waste of Hazardous and Toxic Materials includes wet cell batteries as specific sources of hazardous waste. In non-specific sources of wastes, 'Lead Scrap' is also included under the Regulation.

1.6.4 **EU**

The European Commission, having regard to the Treaty on the Functioning of the European Union (EU), having regard to the Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators, and waste batteries and accumulators, and repealing the Directive 91/157/EEC (1), and in particular Article 12(6)(a) thereof, whereas "Recycling processes, as part of a sequence or as standalone processes, of waste lead-acid, nickel-cadmium, and other batteries and accumulators, should achieve the minimum recycling efficiencies as set out in Annex III, Part B to the Directive 2006/66/EC". The Commission Regulation (EU) No 493/2012 of 11 June 2012, under the Directive 2006/66/EC of the European Parliament and the Council, provides a detailed rule regarding the calculation of recycling efficiencies of the recycling processes of waste batteries, and accumulators.

1.6.5 **USA**

The U.S. federal law requires, with certain exceptions, used nickel-cadmium (Ni-Cd), and lead (Pb) batteries to be managed as Universal Waste (40 CFR Part 273). The Universal Waste Rule prohibits the handlers (e.g., contractors) from disposing of waste Ni-Cd and Pb batteries, and further indicates that these batteries must be sent for recycling.

1.6.6 **Vietnam**

The Law on Environmental Protection (LEP), 2019 of Vietnam, which has revised, and replaced the LEP 2005, has provisions regarding implementation of Basel Convention. This law has improvised provisions on importing of waste, and scrap, and Circular No. 34/2017/ TT- BTNMT requires to take back, and to undertake the treatment of discarded products including accumulators and batteries.

1.6.7 **Ghana**

In Ghana ULAB and its recycling activities are classified as hazardous. Prior to 2016, the Environmental Protection Agency Act, 1994 (Act 490), the Environmental Assessment Regulations 1999, (LI 1652), Basel Convention and Bamako Convention used to regulate these recycling activities. In 2016, the Hazardous and E-Waste Management and Control Act, 2016 (Act 917) was passed as a domesticated version of the Basel Convention. The Act has covered two types of wastes in two parts, "Hazardous and other wastes (including biomedical wastes)" and "Electrical and Electronic Waste". In this Act, section 9 describes take-back schemes; section 11 is specifically about battery management; section 10 discusses on financing of waste management activities; sections 13-19 on requirements, application and permitting recycling facilities; section 21-22 regarding import-export controls and section 23 on consent for transit.

Ghana has the "Environmental Protection Agency" to combat the environmental issues of Ghana.[15]

1.6.8 **Brazil**

Brazil's National Environment Council (CONAMA) replaced the country's groundbreaking 1999 Resolution on the environmental management of batteries in 2008. The 1999 Resolution was a binding one and also referenced directly by several states and municipal laws in Brazil. The current Resolution requires registration, testing of batteries, making management plan, take-back plan and setting limits of compounds in LAB. It prescribes in Articles 7, and 8 to make the "environmentally adequate destination" of zinc-manganese, alkaline, LAB and small portable batteries; the responsibility of the respective manufacturer or importer and this responsibility extends to manufacturers and importers of products that contain such batteries in a non-removable fashion.

The term "environmentally adequate destination" is defined in Article 2 as "one that minimizes risks to the environment, and adopts technical procedures for the collection, receipt, reuse,

15 http://www.epa.gov.gh/epa/

recycling, treatment or final disposal in accordance with existing environmental law." The present Resolution replaces the limits of 1999 Resolution No. 257 for Lead-0.1% by weight (earlier 0.2%) for all batteries and accumulators with such chemistries; and for the LAB-mercury with 0.005% by weight and cadmium with 0.01% by weight.[16]

1.7 International Tax Scenario

Sri Lanka's Initiatives on Lead-Containing Products:

As of last update in January 2022, Sri Lanka has implemented regulations and tax policies aimed at regulating lead-based products and reducing their harmful effects on public health and the environment.[17]

Regulations include limits on the lead content in paints sold in the country and requirements for labeling lead-containing paints.

Batteries Ecotax Act in Philippines:

An ecotax to be imposed on rechargeable batteries which will be equal to 1% and disposable batteries or other products which will be equal to the 3% of the actual price as defined. The ecotax will be imposed on manufacturers, distributers and importers.[18]

Thailand's initiative on Paints:

Administrative Decree Requiring Alkyd Enamel Paints to Meet Industrial Product Standards, 2016/2017: no more than 0.01% lead, mercury and cadmium (dry weight) in all enamel paints in Thailand.

Consumers pay a recycling deposit when purchasing a lead-acid battery, with a rebate offered when the consumer hands over the expired battery to the BEV manufacturer for recycling. The excise department collects an excise tax on batteries of 8%, but a recycling plan could cut the rate to 1%, 3% or 5%, depending on energy efficiency.[19]

Another approach the department is considering is delegating an intermediary or company with expertise in recycling batteries to conduct the recycling instead of EV manufacturers, he said. The department also wants to impose a carbon tax to help Thailand meet its environmental goals.

16 http://www.temasactuales.com/temasblog/environmental-protection/brazil-adopts-new-battery-rules/

17 https://ipen.org/sites/default/files/documents/2021_lead_report_cej_oki_joint_study.pdf

18 https://hrep-website.s3.ap-southeast-1.amazonaws.com/legisdocs/basic_19/HB03359.pdf

19 Bangkok Post - Excise considers new green tax measures

CHAPTER 2:
Assessment of Current VAT/Tax Regulation and Recommendations for Improvement

2.1 Introduction

Bangladesh's current VAT/tax regulation imposes a standard rate of 15% on all products, including those containing lead. However, the paint industry faces additional taxes such as customs duty, supplementary duty, and income tax, driving the effective tax rate up to 25%. Despite this, the regulation lacks specific provisions addressing the environmental and health impacts of lead-containing products, presenting a significant regulatory gap.

2.2 Current State of VAT/Tax Regulation

The existing VAT/tax system in Bangladesh functions under a uniform rate structure, without specific considerations for the environmental and health implications of lead-containing products. While the general tax rates apply to these items, the absence of targeted measures fails to account for the detrimental effects of lead pollution on public health and the environment. Moreover, the lack of a distinct tax category for such products indicates a regulatory oversight.

2.3 Identified Challenges

Monitoring and Control Issues:

One of the primary challenges stems from the incomplete enlistment of units, making it difficult to monitor and regulate the production and distribution of lead-containing products effectively. The lack of comprehensive oversight undermines regulatory efforts and compromises environmental and public health protection measures.

Imported Paints Oversight:

Inadequate control over the substantial portion of paints imported from other countries, which accounts for 20% of the market, exacerbates lead pollution risks. Without stringent regulations and robust monitoring mechanisms in place, the influx of imported paints containing lead further complicates efforts to mitigate environmental contamination.

Cost Disparity for Lead-Free Pigments:

The significant cost disparity between lead-free pigments and their lead-based counterparts presents a formidable barrier to businesses seeking to transition to environmentally sustainable alternatives. With lead-free pigments costing five times more than lead pigments, many businesses, especially smaller ones, struggle to afford the necessary materials, hindering progress towards reducing lead pollution.

2.4 Gap Analysis

Environmental and Health Impact Oversight:

Lead, a toxic substance, poses severe risks to human health and the environment. However, the current tax regulation overlooks these impacts, failing to account for the costs associated with mitigating lead pollution and addressing its adverse effects on public health.

Pricing Disincentives for Sustainable Alternatives:

Businesses striving to produce lead-free alternatives encounter challenges due to the high tax rates levied on alternative raw materials. This lack of incentives discourages investment in eco-friendly technologies and materials, impeding the transition towards sustainable practices.

Lack of Industrial Paint Standards:

Bangladesh lacks comprehensive standards for industrial paints, particularly concerning harmful substances like lead and other heavy metals. While the Bangladesh Standards and Testing Institution (BSTI) oversees general product standards, the specific regulations for industrial paints remain insufficient, leaving significant health and environmental risks unaddressed. This regulatory gap results in inconsistent quality control and potential exposure to hazardous materials, highlighting the need for stricter, more detailed industrial paint standards

Lack of Specific Limits for Lead in Food Colors and Specification of Heavy Metal:

The Food Safety Act, 2013 of Bangladesh provides a broad framework for ensuring food safety but lacks specificity in certain critical areas. The Act broadly prohibits the use of harmful substances and food adulteration, but it does not explicitly mention specific permissible limits for lead or other contaminants in food colors. While the Act mentions heavy metals in general terms, it does not provide specific thresholds or detailed lists of heavy metals that should be regulated. This absence of clear, quantitative standards makes it challenging to uniformly enforce the law and ensure that all food products are free from harmful levels of these contaminants.

2.5 Scope of Improvement or Changes

Incorporating Environmental and Health Considerations:

Amending VAT/tax regulations to explicitly recognize the environmental and health impacts of lead-containing products is essential. Introducing differentiated tax rates based on the ecological footprint and health implications of goods would better align tax policies with sustainability goals.

Standards for Industrial Paints:

Bangladesh needs to establish comprehensive and detailed standards for industrial paints, specifically targeting harmful substances like lead and other heavy metals. Clear regulations and strict enforcement mechanisms should be developed to ensure consistent quality control and mitigate health and environmental risks. Collaboration with industry stakeholders and alignment with international best practices can further enhance the effectiveness of these standards, ensuring safer products and working conditions.

Specification of Food Color Limits and Heavy Metal in the Act:

The Food Safety Act, 2013 of Bangladesh should include specific permissible limits for lead and other contaminants in food colors to enhance clarity and enforceability. Additionally, the Act should provide detailed lists and thresholds for various heavy metals, allowing for more precise regulation and consistent enforcement. This would ensure that food products are uniformly safe from harmful levels of contaminants, thereby better protecting public health.

Introduction of Green Tax:

Implementing a green tax system can incentivize the adoption of lead-free production processes and sustainable alternatives. By offering tax rebates or exemptions to businesses producing eco-friendly products, the government can promote innovation and market competitiveness in environmentally conscious industries.

2.6 Gap in Implementation

Enforcement and Compliance:

Efforts to revise tax regulations must be accompanied by robust enforcement mechanisms to ensure compliance. Strengthening monitoring and oversight capacities within tax authorities is crucial for identifying and penalizing non-compliant businesses.

Stakeholder Engagement:

Effective implementation requires collaboration between government agencies, industry stakeholders, and environmental organizations. Engaging these stakeholders in policy development and implementation can facilitate the adoption of greener practices and foster a culture of environmental responsibility.

2.7 Recommendations

Policy Reforms:

Establishing a dedicated task force to review and revise VAT/tax regulations is imperative. This task force should focus on incorporating provisions that address environmental and health impacts, aligning tax policies with sustainability objectives.

Incentive Mechanisms:

Introducing tax incentives, such as investment credits or reduced tax rates, can encourage businesses to adopt eco-friendly technologies and materials. Public-private partnerships can also play a vital role in financing research and development initiatives aimed at reducing lead pollution and promoting sustainable alternatives.

VAT Burden on Recycling:

The imposition of a 15% VAT on recycling activities disproportionately affects small smelters, rendering formal recycling economically unfeasible. Consequently, many smelters resort to informal recycling practices, exacerbating lead pollution risks and jeopardizing both environmental integrity and public health.

CHAPTER 3:
Green Tax

3.1 What is Green Tax? Why it is important to reduce Lead Poisoning?

Green taxes also known as environmental taxes encompass levies imposed on various aspects of energy consumption, transportation, pollution, and resource depletion. Specifically, energy taxes target a broad spectrum of energy-related products and electricity usage. This includes traditional fuels like petrol and diesel utilized in transportation, as well as energy sources such as fuel oils, natural gas, coal, and electricity employed for heating purposes. These taxes are designed not only to generate revenue but also to incentivize more sustainable practices and discourage excessive consumption of finite resources while mitigating environmental harm.[20]

Green taxes play a crucial role in reducing lead poisoning by discouraging the use of lead-containing products and encouraging the adoption of safer alternatives. Lead is a highly toxic substance that poses significant health risks, particularly to children and vulnerable populations. Historically, lead has been used in various products such as gasoline, paints, and pipes, contributing to environmental contamination and human exposure.

By implementing green taxes targeted at products containing lead, governments can effectively raise the cost of using these hazardous materials. This economic disincentive encourages industries to seek out alternative, lead-free materials and processes. Additionally, green taxes can fund initiatives such as lead abatement programs, environmental cleanup efforts, and public health campaigns to raise awareness about lead poisoning and its prevention.

Furthermore, by reducing the demand for lead-containing products through taxation, the overall environmental burden of lead pollution decreases. This, in turn, helps protect ecosystems and reduce the risk of lead contamination in air, soil, water, and food sources, thereby safeguarding public health and promoting sustainable development.

20 https://taxation-customs.ec.europa.eu/green-taxation-0_en

In essence, green taxes serve as a powerful policy tool to mitigate lead poisoning by curbing its sources, promoting safer alternatives, and funding remediation efforts, ultimately contributing to healthier environments and communities.

3.2 Objectives of Tax Reform:

The primary objective of this tax reform is to reduce the prevalence of lead-containing products by making their use economically less attractive. The reform seeks to:

- Reduce the production and usage of hazardous substances like lead by making them more expensive through higher taxes. This discourages their use in products and processes, thereby reducing public exposure to harmful chemicals.
- Decrease lead usage and emissions in manufacturing and recycling processes.
- By imposing higher taxes on hazardous chemicals like lead, the reform aims to make safer alternatives more competitive in the market.
- Taxes on chemicals like lead can generate significant government revenue, which can be allocated towards the cleanup of contaminated sites, funding for recycling programs, or health initiatives to treat and prevent lead poisoning.
- Through tax reforms, governments can enforce stricter compliance such as funding for increased inspections, monitoring, and penalties for non-compliance.
- Part of the revenue from such taxes can be used to fund public awareness campaigns about the dangers of lead exposure and the benefits of using alternative, safer materials.
- Incorporating green tax.

Secondary objectives include reinforcing global partnerships on environmental issues and setting a precedent for addressing similar challenges with other hazardous materials.

3.3 Overview of Environmental Taxation across the World:

Environmental tax, also known as eco-tax, is a form of taxation imposed on goods, activities, or services that cause environmental harm. These taxes are specifically designed to include the environmental costs associated with production and consumption, which are typically not reflected in the market price of goods and services. The primary objectives of environmental taxes are to reduce environmental damage, promote sustainable practices, and encourage businesses and consumers to adopt more environmentally friendly behaviors.

In the European Union, environmental taxation is utilized as a pivotal instrument to encourage eco-friendly choices and behaviors among consumers and producers. The primary goal of these taxes is to incorporate the cost of environmental damage, or negative externalities, into the prices of goods and services. This economic strategy aims to steer both production and consumption in directions that are less harmful to the environment. These taxes are designed to address broad areas including climate change, air and water pollution, resource consumption, and biodiversity loss. The application of environmental taxes varies across the member states, influenced by regional and local policies, which reflect the diverse environmental priorities and economic contexts within the Union.

Environmental taxes in the EU are integrated into a broader environmental policy framework that sets the scope for action available to Member States. While these taxes only represent a modest portion of national tax revenue, they play a crucial role in the overarching strategy for environmental conservation and climate change mitigation. The existing tax measures are carefully calibrated to balance environmental goals with economic impacts, taking into account factors such as competitiveness and fairness to ensure that the taxes gain widespread acceptance and effectiveness.

The Organization for Economic Co-operation and Development (OECD) provides comprehensive guidelines for policymakers on the implementation of environmental taxes, aiming to address the failure of markets to consider environmental impacts adequately. A crucial aspect of the OECD's recommendations is the design of environmental taxes. They should be targeted specifically at the pollutant or polluting behavior with minimal exemptions to maintain broad and consistent incentives for pollution reduction.

Tax Base and Rate:

The tax base should be directly linked to the environmental harm caused, ensuring that the full range of potential abatement options is incentivized. The tax rate should correspond to the extent of environmental damage, reflecting the societal costs of these damages while also considering the need to raise public revenue.

Predictability and Credibility:

For environmental taxes to be effective, they must be credible and predictable. This stability encourages businesses and consumers to make long-term investments in cleaner technologies and practices.

Challenges and Future Directions

While environmental taxes are powerful tools, they also present challenges, particularly in terms of economic impact, fairness, and public acceptance. Both the EU and OECD

acknowledge these challenges and stress the importance of careful design, clear communication, and adequate transitional measures to mitigate adverse effects on competitiveness and equity. Future directions in environmental taxation will likely focus on improving the effectiveness and fairness of these taxes, enhancing international cooperation to address global environmental issues, and refining tax structures to better reflect environmental impacts.

Both the EU and the OECD emphasize the critical role of environmental taxation in promoting sustainable development and mitigating environmental damage. They advocate for well-designed taxes that reflect the true environmental costs associated with production and consumption activities. These taxes are seen as essential tools for correcting market failures and steering economies towards more sustainable pathways.

3.4 Green Tax Practices Around the World:

International scenario of green tax on lead-containing products

While there might not be a specific global green tax on lead, some countries impose taxes or levies on products that contain lead to discourage their use or to offset the environmental and health costs associated with lead pollution. 15 new countries have adopted legislation to establish legal limits to Lead in Paint.

Country name	Period	Impact on Green Taxation	Source
Australia	1994-2022	Australia charges a green tax on waste and environment, passenger movement, land-based sewage discharge, illegal waste dumping fines, road & transport duty, electronic devices, CO2 emissions, mineral oils, and additional environmental outlays, etc.	OECD (1990 2022)
Finland	1990–2022	Finland charges a green tax of 7 % lower CO2 emissions than a carbon tax shift to output tax. But more than 7% pay a carbon tax of 1997 £0.55 per liter, a CO2 emission of 10.69 € per MWh natural gas.	(Nordic Council, 2006)

Country name	Period	Impact on Green Taxation	Source
China	2008	China charges a green tax on diesel, kerosene, jet fuel, etc. 1.20 Chinese yuan (CNY) per liter. The international & domestic flights' airport fees are 90 & 50 CNY per passenger. China also charges motor vehicles, import products, and waste management tax.	OECD (1990 2022)
Denmark	1992	Denmark charges a green tax on natural gas & non- biodegradable waste used as fuel tax of 0.4030 & 178.5 Danish krone (DKK) per ton. It also charges CO2 emissions less than 6% down get 2% subsidies, and a 23% reduction in carbon emission gets a 26 % subsidy.	(Nordic Council, 2006) OECD (1990 2022)
Norway	1991–2007	Norway charges a green tax on CO2 emissions of 21% on power plants. The people pay tax from 1995 environmental tax (ET). CO2 reduction in the 1990s was 14%. If 2 % of CO2 emission reduce then the carbon tax 12 % exemption. Norway charges a tax on Liquefied Petroleum Gas (LPG) of 3.48 Norwegian krone (NOK) per kg.	OECD (1990 2022) (OECD, 2001)
Sweden	1990–2020	Sweden charges a green tax of 20% on CO2 emissions not higher than emissions without a carbon tax pay.	(Nordic Council, 2006)
Nordic Council	1999–2020	Nordic council charges a green tax on less than 3.5 % of carbon emissions.	(Nordic Council, 2006)
United Kingdom (UK)	2001–2010	UK charges a green tax of 2.25 % on CO2 emissions in 2002 and 2003. Uk charges a registration fee of 150.0 Great Britain Pound(GBP) per year use of motor vehicles that emit 16.5 million tons of carbon. Uk charges a green tax of 183.1 € per million tons of carbon emission.	(HMT, 2006)

Country name	Period	Impact on Green Taxation	Source
India	2005–2010	India charges a carbon tax per ton of Rs 50 & 300 crore annually. The tax charges day by day increase.	(Srivastava & Rao, 2010)
Bangladesh	2014-2015	Bangladesh proposed a 5% Green Tax(GT) but was not implemented. Only Bangladesh receives environmental charges, vehicle registration fees, etc.	(MoF, 2015)
Canada	2010-2022	Canada charges a green tax on waste management of individual products of 0.40 Canadian Dollars (CAD) per item. The federal tax rate is 0.653 CAD per liter on 3000cc (Cubic centimeters) per vehicle.	OECD (1990-2022)
United States	1994-2022	The United States charges a tax on noise pollution, water abstraction, aviation, and hazardous waste. United States charges a tax on carbon emissions of 11.50 USD per ton in 1994,	OECD (1990 2022)
France		France charges a green tax on noise pollution, CO2 emissions related to motor vehicles & others.	

Scenario of green taxation in Bangladesh:

Bangladesh, is a developing nation, with substantial environmental hurdles stemming from its dense population, burgeoning industrial sector, and constrained natural resources. While the manufacturing industry drives economic progress, it also exacerbates environmental issues. In response, the Bangladeshi government has implemented various measures, such as green taxes and energy efficiency programs, to foster sustainability. Nonetheless, the actual impact of these policies remains uncertain, lacking empirical substantiation of their efficacy.

In the fiscal year 2014-15, the Bangladesh government suggested a 5% green tax targeting polluters engaged in activities like carbon emissions. However, this proposal has yet to be enforced, leading to no direct revenue generation from environmental taxes, albeit some indirect earnings. The National Board of Revenue (NBR) in Bangladesh imposes charges,

fees, and penalties related to environmental concerns. Specifically, the industrial sector is a major contributor to air, water, and soil pollution. To mitigate negative externalities, the Bangladeshi government imposes taxes on environmental activities.

Comprehensive Tax Reform and Green Tax Proposal for Lead-Containing Products in Bangladesh

In Bangladesh, the VAT on products and services, including those containing lead, stands uniformly at 15%. Despite this broad application, there are no specialized VAT variations or additional customs duties that address the environmental and health risks associated with products containing lead. This contrasts sharply with sectors like tobacco, which are subject to targeted regulations aimed at reducing consumption due to health risks.

This proposal outlines a comprehensive strategy to implement a green tax on lead-containing products in Bangladesh. The tax is intended to discourage the use of lead, promote safer alternatives, and address the environmental and public health concerns associated with lead exposure.

Proposed Tax Structure:

- Tax Rate: Impose an additional green tax of 20% on the existing VAT for all lead-containing products.
- Scope: Apply the tax to all products with lead content, especially batteries, paints, and electronic components.
- Exemptions: Provide exemptions for essential medical devices and other critical applications where alternatives are not viable.
- Rebates and Incentives: Offer rebates or reduced tax rates for companies that successfully reduce the lead content in their products or switch to lead-free alternatives.

Implementation Measures:

- Regulatory Adjustments: Revise existing laws to incorporate the green tax and ensure alignment with international health and safety standards.
- Monitoring and Compliance: Enhance monitoring mechanisms to ensure compliance with the new tax laws and use digital tracking to manage the lifecycle of lead-containing products.

- Public Awareness: Launch comprehensive public education campaigns to raise awareness about the dangers of lead exposure and the benefits of switching to safer alternatives.
- Research and Development Support: Allocate funds from the tax revenue to support research into lead-free technologies and products.

Expected Outcomes

- Health Benefits: Reduced public exposure to lead, leads to lower incidence of lead-related health issues.
- Environmental Impact: Decreased environmental contamination from lead, particularly in soil and water.
- Economic Incentives: Creation of a market for lead-free products, stimulating economic opportunities in green technologies.
- Revenue Generation: Additional funds for government initiatives in health and environmental sectors.

CHAPTER 4: **CONCLUSIONS and RECOMMENDATIONS**

The conclusion drawn from the scenario involving both lead paints and lead-acid batteries underscores the urgent need for comprehensive guidelines in Bangladesh to address the environmental and public health risks associated with these hazardous materials. Despite the presence of the Environmental Conservation Act of 1995 and standards on lead paint which hold the authority to safeguard the environment, the legislation falls short in providing specific regulations pertaining to lead-acid batteries (ULAB) or lead paints. This regulatory gap leaves significant health and environmental hazards unaddressed, particularly concerning the improper handling and disposal of ULAB in thousands of small to medium-sized auto repair workshops across the country.

The prevalent use of lead-acid batteries, coupled with the increasing utilization of lead-containing paints and solvents in these workshops, poses a substantial risk of lead contamination to the surrounding ecosystems and communities. Furthermore, the absence of distinct prosecution provisions for non-compliance with environmentally sound management (ESM) of ULAB processes, as outlined in the 2006 SRO, exacerbates the challenge of enforcing proper waste management practices.

In light of these concerns, Bangladesh urgently requires robust regulatory frameworks that specifically address the safe handling, recycling, and disposal of both lead paints and lead-acid batteries. These regulations should be accompanied by stringent enforcement mechanisms and clear guidelines for prosecution to ensure compliance and mitigate the adverse impacts of lead pollution on public health and the environment.

4.1 **Suggestions to Address Lead Pollution**

Regulatory Zoning for Paint Industries:

Designating specific zones for paint industries can mitigate environmental exposure and facilitate better regulation of lead pollution. By concentrating paint manufacturing activities in designated areas, regulatory authorities can implement targeted measures to minimize pollution risks and enhance environmental protection efforts.

Involvement of Ink Industries:

Considering ink industries as stakeholders in addressing lead pollution broadens the regulatory scope and fosters collaborative initiatives. Recognizing the potential contribution of ink industries to environmental contamination enables comprehensive regulatory frameworks that encompass multiple sectors, thereby maximizing the effectiveness of pollution mitigation strategies.

Research on Plant-Based Alternatives:

Investing in research on plant-based alternatives to lead pigments and additives holds promise for developing sustainable solutions to lead pollution. By exploring innovative materials derived from renewable sources, researchers can pioneer eco-friendly alternatives that mitigate environmental impacts and promote sustainable development.

Mandatory Labeling of Lead Content:

Requiring products to be labeled with lead content details enhances consumer awareness and empowers informed decision-making. By mandating clear labeling of lead-containing products, regulatory authorities enable consumers to make conscious choices and incentivize businesses to prioritize environmental sustainability in their production processes.

Community Sensitization and Advocacy:

Community engagement and advocacy campaigns are vital for raising awareness about the dangers of lead poisoning and mobilizing support for regulatory changes. By educating communities about the health risks associated with lead exposure and advocating for stringent regulations, stakeholders can drive positive change and foster a culture of environmental responsibility.

4.2 Recommendations from Industry Associations

Cluster-Based Data Collection:

Adopting a cluster-based approach to data collection enables targeted interventions and facilitates the identification of major polluters. By focusing on specific industrial clusters, regulatory authorities can streamline monitoring efforts and prioritize enforcement actions to effectively mitigate lead pollution.

Reclassification of Paint as Essential Product:

The National Board of Revenue (NBR) currently categorizes paint as a luxurious product, subjecting it to standard VAT rates. However, paint is an essential product necessary for construction, infrastructure development, and maintenance. Recognizing its essential role, reclassification of paint (only those who are lead-free or maintain the lead standards) as an essential product and tax reform is necessary to alleviate the financial burden on both producers and consumers and promote sustainable growth in the paint industry.

Membership Requirement for Paint Factories:

Mandating paint factories to be members of industry associations promotes cohesive industry-wide initiatives and regulatory compliance. By ensuring participation in industry associations, regulatory authorities enhance coordination and cooperation among stakeholders, facilitating the implementation of effective pollution control measures.

Tax Reforms:

Reducing tax and custom duty on lead-free pigments while imposing taxes on lead pigments incentivizes the adoption of eco-friendly alternatives. By aligning tax policies with environmental objectives, authorities encourage businesses to invest in sustainable practices and accelerate the transition towards greener industries.

Collaborative Approach and Education:

Adopting a collaborative approach focused on controlling lead pollution rather than outright banning it, coupled with extensive education efforts across sectors, enhances regulatory effectiveness. By fostering collaboration between government agencies, industry stakeholders, and civil society organizations, authorities can leverage collective expertise and resources to develop comprehensive pollution control strategies. Additionally, educating stakeholders about the environmental and health risks of lead pollution fosters a shared commitment to mitigating its adverse effects.

4.3 Recommendations from Battery Industry Association

VAT Reduction for Informal Smelters:

Reducing VAT incentivizes informal smelters to join regulated processes, ensuring sound management practices. By easing the financial burden on informal recyclers, authorities encourage their participation in formal recycling programs, thereby enhancing environmental protection efforts and minimizing pollution risks.

Funding for Small Recyclers:

Providing funding for small recyclers to upgrade their facilities and adopt eco-friendly practices promotes sustainable battery recycling. By supporting investments in infrastructure and technology, authorities facilitate the transition to environmentally responsible recycling practices and enhance pollution control measures.

Incentivized Battery Return Programs:

Offering cash incentives for returning used batteries encourages proper disposal and minimizes mishandling by the informal sector. By rewarding consumers for responsible battery disposal, authorities incentivize participation in recycling programs and promote environmental stewardship.

Customer Awareness Campaigns:

Educating customers about the importance of proper battery disposal enhances environmental consciousness and supports regulatory efforts. By raising awareness about the environmental and health risks of improper battery disposal, authorities empower consumers to make informed choices and contribute to pollution prevention efforts.

4.4 Overall Recommendations from the Other Stakeholders

Tax and Incentive Reform:

- Advocate for the implementation of specific VAT or tax regulations targeting products containing lead in Bangladesh, particularly focusing on the paint and battery industries.
- Recommend a tiered tax structure that promotes the production and utilization of lead-free alternatives while imposing higher taxes on products containing lead.
- Collaborate with tax experts to formally present a proposal to the National Board of Revenue (NBR), highlighting the environmental and health impacts of lead, alongside a thorough cost-benefit analysis.

Tax Holidays and Incentives:

- Initiate discussions with relevant authorities to include lead-free industries in the roster of products eligible for tax holidays, incentivizing businesses to embrace eco-friendly practices.

- Advocate for additional financial incentives for industries adopting green practices, such as transitioning to lead-free manufacturing.

Regulatory Standards:

- Partner with the Bangladesh Standards and Testing Institution (BSTI) to review and enhance standards, ensuring they are in line with international norms and effectively address lead concerns in decorative and industrial paints.
- Suggest the establishment of a standard for lead content in industrial paints, aligning with efforts to establish a comprehensive regulatory framework.

Formalization of Informal Sectors:

- Collaborate with informal lead recycling associations to devise and implement safety protocols for workers and the environment.
- Advocate for formalization initiatives that acknowledge and support the contributions of informal recyclers, safeguarding their livelihoods during the transition period.

Public Awareness and Education:

- Develop and implement an extensive public awareness campaign on the hazards of lead pollution, targeting both consumers and businesses.
- Work with educational institutions to integrate environmental and health safety education, including the risks associated with lead, into the school curriculum.

Industry Collaboration:

- Facilitate ongoing dialogue and collaboration between government bodies, industry associations, and environmental groups to address challenges, exchange best practices, and foster a collective approach toward lead-free practices.

Green Financing Strategies:

- Push for the adoption of green financing strategies to assist businesses in transitioning to lead-free practices within the paint and battery industries.
- Encourage the government to consider tax waivers or reductions for industries embracing environmentally friendly practices.
-

Monitoring and Enforcement:

- Partner with the Department of Environment (DoE) to develop regulations for testing lead-containing products, ensuring strict enforcement of standards and regular monitoring.
- Explore the feasibility of implementing third-party certification processes for industries adhering to lead-free standards.

International Best Practices:

- Draw insights from successful international practices, such as those in Korea, China, and the EU, and adapt relevant strategies to suit the Bangladeshi context.
- Collaborate with international organizations to exchange experiences and gather insights on effective policies and regulations.

Continuous Stakeholder Engagement:

- Organize regular stakeholder consultations involving government officials, private sector leaders, environmentalists, and community representatives to ensure a holistic and inclusive approach.
- Establish platforms for ongoing dialogue and feedback mechanisms to address emerging challenges and adjust strategies accordingly.

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Bangladesh Labor Act, 2006 Import Policy Order, 2015-2018 National Environment Policy, 2018 National Health Policy, 2011 National Industrial Policy, 2010

ANNEX-A

Links of the rules for LAB Management of different countries:

1. **India:** Battery Waste Management Rules, 2020 - https://www.eqmagpro.com/wp-content/uploads/2020/02/Battery-Waste-Management-Rules-2020-draft.pdf

2. **Sri Lanka-** Technical Guidelines on Management of Used Lead-acid Batteries - http://www.cea.lk/web/images/pdf/Battery_waste_Guidelines.pdf

3. **Indonesia-** Waste & hazardous substances - https://www.ecolex.org/details/legislation/government-regulation-of-the-republic-of- indonesia-no-18-of-1999-on-waste-management-of-hazardous-, and-toxic-materials- lex-faoc036549/

4. **EU-** Recycling processes which, as part of a sequence or as standalone processes, recycle waste lead-acid, nickel-cadmium, and other batteries, and accumulators - https://eur-lex.europa.eu/legal- content/EN/TXT/HTML/?uri=CELEX:32012R0493&from=EN

5. **USA-** Universal Waste Rules - https://www.call2recycle.org/recycling-laws-by-state/ & https://www.epa.gov/hw/universal-waste

6. **Vietnam-** Law on Environmental Protection (LEP) - https://www.env.go.jp/en/recycle/asian_net/Annual_Workshops/2017_PDF/Day1_S1/ S1_01_Viet_Nam.pdf

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