WORLD ENVIRONMENT DAY SEMINAR 2023

INTEGRATED POLLUTION MANAGEMENT FOR A CLEAN AND HEALTHY BANGLADESH AND GREEN GROWTH

Proceedings

Venue: Department of Environment Auditorium, Agargaon, Dhaka

Date: June 6h, 2023

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Introduction

An event titled World Environment Day Seminar, Integrated Pollution Management for a Clean and Healthy Bangladesh and Green Growth was held on June 6th, 2023 at the Department of Environment auditorium, Agargaon, Dhaka. The main focus of the seminar was Integrated Pollution Management for a Clean and Healthy Bangladesh and Green Growth.

The event was organized by the Ministry of Environment, Forest and Climate Change, Department of Environment, Dhaka University, Bangladesh Bondhu Foundation, Pure Earth, UNICEF, and The World Bank.

Opening Session

Dr. Aeorangajeb Al Hossain (MC)

Dr. Aeorangajeb Al Hossain welcomed everyone. He introduced the respectable Chief Guest Atiqul Islam, Mayor, Dhaka North City Corporation, and other Special Guests - Saber Hossain Chowdhury M.P., Chairman, Parliamentary Standing Committee on Ministry of Environment, Forests, and Climate Change; Abdoulaye Seck, Country Director, Bangladesh and Bhutan, The World Bank; Sheldon Yett, UNICEF Representative to Bangladesh. The event was chaired by Dr. Abdul Hamid, Director General, Department of Environment (DoE). Dr. Iqbal Abdullah Harun, Additional Secretary, Ministry of Environment, Forests and Climate Change

Abdoulaye Seck,
Country Director, Bangladesh and Bhutan

Mr. Abdoulaye Seck, Country Director, Bangladesh and Bhutan highlighted the in his speech that a day earlier, on 5th June, World Environment Day was commemorated. The theme of the day was Beat Plastic Pollution. He stated, Plastic, air, water, and solid waste pollution has a devastating effect on everyday life. Integrated pollution management is important for a clean and healthy Bangladesh. In 2019 pollution caused 27,000 premature deaths, which was about one-third of all deaths in the country. It resulted in 5.2 billion days of illness. The cost of pollution is equivalent to 17.2 percent of the country's GDP in 2019

Furthermore, he added, Environmental pollution is exerting a heavy toll on children. Lead poisoning is particularly affecting children; it causes irreversible damage to their cognitive capacity, trapping them in the poverty cycle by learning and productivity impairment. Bangladesh is one of the most severely lead-impacted countries worldwide.

Mr. Abdoulaye Seck said, Household air pollution primarily affects women and children under five years old. This air pollution is mostly caused by the extensive use of solid fuel for cooking, including wood, agricultural residues, and other sources. A recent study says that South Asia is home to 9 of the world’s 10 cities with the worst air pollution. And Dhaka is among them. Air pollution alone is responsible for approximately 19 percent of death in Bangladesh.

He also highlighted that, major rivers in the country in Bangladesh are experiencing a severe decline in water quality due to industrial discharge, and agriculture runoffs. 12.6 percent of supplied water contains arsenic. Besides the rivers, soil pollution is also a grave concern. This is due to the uncontrolled use of chemical fertilizers, pesticides and improper disposal of solid waste, few sanitary landfills, minimum waste management facilities, and no formal e-waste recycling or hazardous waste management operation. Bangladesh simply cannot afford to ignore the environment. Preventing environmental degradation and ensuring climate resilience is critical for becoming an upper-middle-income country by 2041.

Experiences around the world show it is possible to grow cleaner, greener without going slower, concluded Mr. Abdoulaye Seck.

Session 1: Clean and Healthy Bangladesh for Green Growth

Eun Joo Alliso Yi,
Senior Environment Specialist, The World Bank

Ms. Eun Joo Alliso Yi stated that session 1 will focus on Air Pollution and other toxic material, such as lead. Also, there will be talk about solutions. She invited Bjorn Larsen and Ana Luisa Lima from The World Bank to come and present.

Ana Luisa Lima
Senior Environmental Specialist, The World Bank

Ms. Ana Luisa Lima from The World Bank gave a short introduction to Mr. Bjorn Larsen's presentation. She stated that the bank is preparing an analysis and Bangladesh would get a formal invitation to a specific consultation on the country's environmental analysis at the end of August. The objective of the study is to identify the country's environmental priorities and potential solutions.

She highlighted that, In the analysis, they tried to understand what is the best affordable option to deal with environmental problems in the country considering economic effects, and social and environmental consequences as well.

Bjorn Larsen
The World Bank

Mr. Bjorn Larsen presented on Bangladesh Country Environmental Analysis. He said that, the focus of the presentation is air pollution (PM2.5) and Lead (Pb) exposure**.** The CEA also covers the health impacts of drinking water, sanitation, and hygiene including arsenic. An estimation says, 32 percent of all death in 2019 is caused by pollution (Over 2,72,000).

He stated, there is a very high health burden and cost of lead pollution. There are so many sources of lead pollution that cause enormous health impacts on children, impacting their

cognitive development, and intelligence. Also, cardiovascular disease and mortality were observed in the adult population. The analysis found that lead is causing over 60 thousand deaths (61,800). A cost-benefit analysis was done of 43 possible interventions to address this problem. The identified 43 interventions could reduce the health effects by about half. But these interventions do not include cardiovascular disease from lead.

Mr. Bjorn Larsen pointed out that the improved biomass cook stoves are useful from many perspectives but those don't solve the pollution problem. Also, those don't solve the health issues that arise from cooking with solid fuels. Clean cooking is needed. An LPG or Electricity is an appropriate option. Cooking with LPG or an electric method will improve the ambient air quality, even in Dhaka.

Furthermore, he added that, there are many sources of lead (Pb) pollution. Four of them are ULAB recycling, fertilizers, fish feed, and Aluminum cookware. More than 95 percent of the population in Bangladesh cooks with aluminum. Through fish feed and aluminum cookware, lead ends up in food. Doesn't take much lead in food to increase blood lead levels. To reduce blood lead levels 3 actions can be taken. Those are, iron supplements for children, replacing aluminum cook level, and Rehabilitation of an abandoned ULAB recycling site in Kathgora.

Atiqul Islam
Mayor, Dhaka North City Corporation

The chief guest of the event Mayor Atiqul Islam took the stage and highlighted the importance of tree plantation and talked about the shed they provide on the road. Also, he declared that in the next 2 years, 200,000 trees will be planted in DNCC. Mayor said that Gulshan and Baridhara are the two richest areas of Bangladesh. But many from that area were discharging black water directly into Dhaka's storm drain. He also stated The people from Baridhara and Gulshan didn't respond at first when Mayor tried to reach out but later both parties agreed to take steps. DNCC organized awareness sessions in Gulshan 2, Fair was organized as well. Mayor stated, in waste management Joccassee's model can be a solution. It used to cost 10 lakhs BDT, but it now costs only 6 to 7 lakhs BDT.

Furthermore, Mayor Atiqul Islam said, Amin Bazar Landfill is a big challenge. There is a huge emission, all are methane gas. Waste is not being separated here. Every day there are 3,500 tons of waste generated in that landfill. He announced a 42-megawatt power-generating waste-to-energy plant will be inaugurated on the 6th of July. 361,000 tons of carbon emissions will be stopped.

Dr. Anwar Sadat
Deputy Program Manager Planning, Monitoring, and Research (PMR)
Directorate General of Health Services (DGHS)

Dr. Anwar Sadat presented on Lead Poisoning in Bangladesh: From Evidence to Action. He highlighted that, Globally, 1 in 3 children, that is more than 800 million children have blood lead levels at or above 5 µg/dl. Lead is harmful to children; it affects all organs and especially affects their brains. A country situation assessment conducted by UNICEF and Pure Earth in 2021 showed that average blood lead levels of 6.83 µg/dl among children in Bangladesh. Over 35.5 million children in Bangladesh have blood lead levels above 5 µg/dl. Nearly 10 million of these children have a blood lead level above 10 µg/dl.

He also said that, 70 percent of intellectual disability in Bangladesh is due to lead poisoning. (WHO 2019). The country loses 6 percent of its GDP from lead exposure, which amounts to roughly 16 billion dollars annually.

Dr. Anwar Sadat highlighted in presentation that the Institute of Epidemiology, Disease Control and Research (IEDCR) in collaboration with the International Center for Diarrhoeal Disease Research (icddr,b) and with funding support from UNICEF, conducted a research in four districts in Bangladesh. Among the four districts were two high-risk districts, Tangail and Khulna with high concentration of informal recycling of used lead acid batteries (ULAB) sites, and two low-risk districts, Sylhet and Patuakhali, with lowest concentration of ULAB recycling sites. In those districts, lead was found in 100 percent of all age groups but more prevalent in males than females. Around 65 percent of study children had blood lead levels above 3.5 µg/dl (CDC reference level for an intervention).

Furthermore, he said that, nearly 40 percent of children had blood lead levels above 5 µg/dl (WHO reference level for an intervention). The findings revealed that the sources of lead exposure are not limited to ULAB recycling activities. Sources are diverse. The health sector situation assessment (HSSA) was done by icddr,b in 2022 with funding from UNICEF. The

HSSA found that the health system was not fully prepared to respond to the health impacts of lead exposure. There is a lack of diagnostic capacity, clinical guidelines, and information. Most community members had low levels of awareness about the effects of lead exposure. If actions are not taken immediately, they may face severe consequences.

Dr. Anwar Sadat said, several actions have been taken, for example:

- Building consensus on the urgent need to build Health System's capacity to fight against lead.
- A National Technical Implementation Committee (TIC) formed under the Directorate General of Health Services (DGHS) to co-ordinate the Protecting Every Child's Potential (PECP) initiative and Children's Environmental Health program nationally and at the district level.
- Increase awareness during the World Environment Day and International Lead Poisoning Prevention Week in 2022, and over 100 million people reached through social and mass media campaigns.
- A clinical management guideline and training modules on lead poisoning have been developed and approved.
- Social and behavioral change (SBC) messages, materials, and activity implementation plan developed targeting health facilities, schools, and communities in the four BLLS districts, roll out will start in July 2023.

The way forward-

- Develop a national multisectoral strategy and action plan to address lead poisoning in Bangladesh.
- The role of the Department of Environment is crucial in controlling lead pollution.
- To identify sources of lead in products and the supply chain, engage Food Safety Authority, Standards and Testing Institute, Ministry of Labour and Empowerment, and Ministry of Industry.
- Launch and scale up national and subnational level awareness campaign
- Continuous advocacy and engagement with businesses and the private sector for safe manufacturing practices.
- Enforcement of legislation, regulation, and mandatory technical standards targeting sources of lead to prevent future exposure.

Mahfuzar Rahman
Country Director, Bangladesh, Pure Earth

Mr. Mahfuzar Rahman presented the first part of the presentation titled Lead Pollution Mitigation in Bangladesh. He stated, Pure Earth has done three remediation projects. One was in Kathagora before covid (November 2017- February 2018), the Second remediation project was in Mirzapur, Tangail from December 2021 to May 2022 and the third remediation project was in Mohammadnagar, Khulna, from March 2023 – ongoing. Before going into remediation pure earth has taken some steps. Such as community engagement.

He stated that, youth engagement was another step of pure earth. The three remediation project is supported by the Department of Environment. Lead concentration declined by 96 percent after soil remediation. BLL declined by 35 percent after soil remediation in Kathgora.

Faisal Mahmood
Program officer, Pure Earth

The second part of the presentation titled Lead Pollution Mitigation in Bangladesh was presented by Mr. Mahmood Faisal. He stated that 360 toxic sites have been identified by pure Earth via Toxic Site Identification Program (TSIP)**.** He said that, working with Rapid Marketplace Screening (RMS) is ongoing.

Mr. Mahmood Faisal stated that, Environment Sampling and analysis were conducted on intervention sites. Right now a home-based assessment is going on in intervention sites. RMS was conducted on 367 household products, out of those 96 products had a high amount of lead. High levels of lead are found in Toys, Local Paints, Aluminum cookware, Ceramic food ware, Colored pigments, and Sweetener Content.

There are few calls for action. Those are-

- Enforcement of laws and regulations to prevent lead chromate use in spices
- Increase monitoring is needed.
- Expansion of the Toxic Site Identification Program (TSIP) is needed.
- Source identification is needed.

Dr. B.N. Dulal
Chairman, Bangladesh Auto Brick Manufacturers' Association (BABMA)

In his presentation, Dr. B.N. Dulal highlighted the problems of auto brick investors and shared some ways to solve them. He stated that the government is asking to manufacture cement blocks. To make it - stone and cement are needed. Stone's availability relies on imports. And cement manufacturing has some pollution aspects to the environment. Awareness is needed.

He also highlighted that, the auto bricks production initiative was funded by Asian

Development Bank (ADB) and JICA. But ADB is not working with them anymore. During Covid production and sale of auto bricks was disrupted. Auto bricks have huge production costs and its relatively more expensive than traditional bricks. As a result, Sell is hampering. In 2019 Auto bricks were declared as an industry, but the industry couldn't reap the industrial benefits.

Furthermore, he added that, traditional brick production is responsible for 68 percent of air pollution. Right now Bangladesh has 120 Auto Bricks, and the total investment is 6000 crore BDT, per factory costs around 50 Crore (traditional brick field costs only 1 crore). Coal prices have increased. Investors are in a difficult situation. Laws and regulations need to be implemented properly. DoE urged to use modern technology to manufacture bricks, but they didn't specify the process.

Dr. Engr. Khalequzzaman
Founder and Program Manager, Bangladesh Bondhu Foundation (BONDHU)

Dr. Engr. Khalequzzaman said that Bangladesh Bondhu Foundation has been dedicated to working on climate change mitigation and adaptation. The organization has several projects. Such as Bondhu Chula, which is an intermediary solution, not the final one. The foundation also planted 20 million trees, trying to popularize alternate wetting and drying technology, trying to popularize organic fertilizers. A Bondhu Foundation video was shown to the participants.

Sheldon Yett
UNICEF Representative to Bangladesh

Mr. Sheldon Yett, UNICEF Representative to Bangladesh stated that lead is a tremendous issue for Bangladesh. lead is affecting over 35 million children in Bangladesh, which is unacceptable. The Government of Bangladesh and Development Partners are investing millions of dollars. Those investments will be ineffective unless something is done to address the harmful effects of lead poisoning.

He also siad, the laws are available but stronger enforcement of implementation is needed. The industry has a role to play. Responsibility must be taken; no one is going to solve the problems for the country.

UNICEF handed over a policy brief on lead poisoning in Bangladesh to special guests and called for commitment and multisectoral action to urgently address lead poisoning. A video on lead poisoning developed by UNICEF was also shown and can be accessed through this link – Lead Poisoning in Bangladesh

Session 2: Integrated Waste Management for Growth

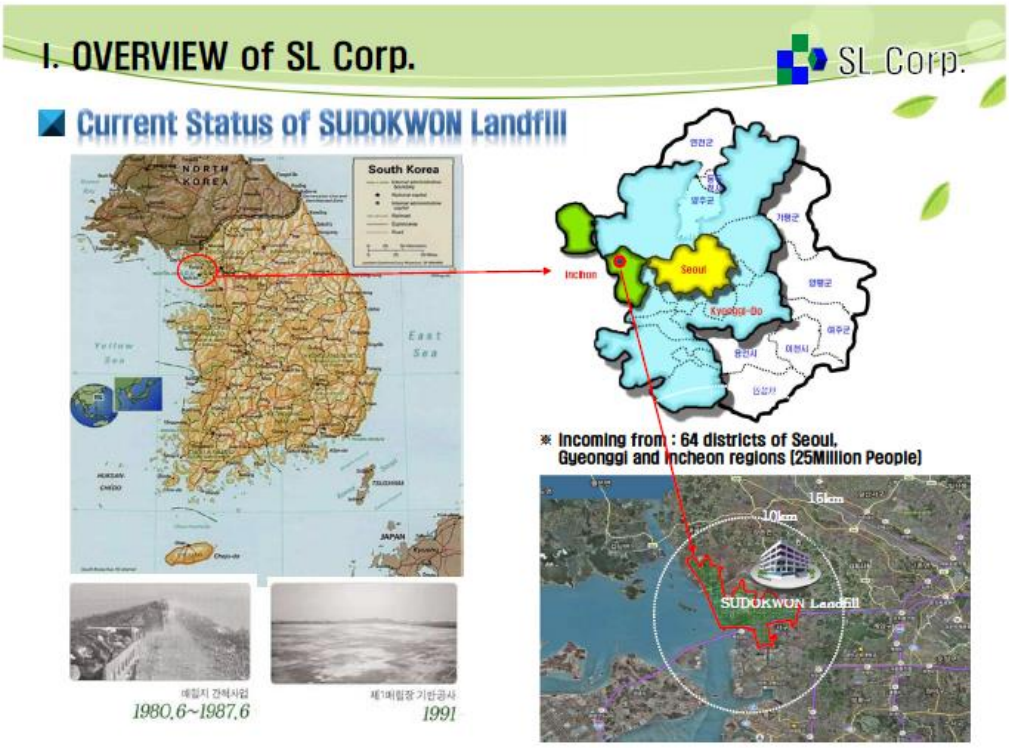
Artistic Performance

An artistic performance was carried out by the environmental club of the Department of Geography and Environment, University of Dhaka.

Mr. Heedong Kwon

Head of Net-Zero Business Dept, SUDOKWON Landfill Site Management Corp (SLC)

The keynote presentation titled `Best Practice on Waste Management in Korea- Sudokwon Landfill Site' was presented by Mr. Heedong Kwon. He highlighted that SL Corp is practicing sound waste management as well as maximizing resource recovery. The organization is transforming the world's largest landfill into the world's best environmental and cultural attraction. In 2000 the organization was founded as a public entity under the environment ministry of Korea. SLC started the operation of a 50-megawatt landfill gas power plant and CDM project. in 2010 the organization started working with other countries.



He also said that The initial installation cost of 1st landfill was 32 million us dollars paid by Seoul, Incheon, and Gyeonggi. SLC is situated in the western part of Korea. Citizens have to segregate different kinds of household waste to discard, such as plastic, paper, etc. Then those are taken for recycling. If recycling can't be done, waste must be put in designated plastic bags, which costs around 5 USD. No one can discard without this process. There are 3 profit sources, those are – tipping fees (charged by waste volume), levies (for the installment of infrastructure), and profits (from various sources). The money earned through profit is used for operations and management of landfills.

Mr. Heedong Kwon said, SL Corporation also works with the residents' council. The organization manages funds and the council shares convenience and facilities. As per law, 10 percent of the tipping fee is given for residents' benefits. Such as medical checkups etc. SLC

now operates an SRF plant to change waste into fuel and energy. There are the weightbridges to monitor the volumes of waste. The organization is now operating 50-megawatt power plants. 350 million residents are getting electricity. Carbon emission is reduced by approximately 800,000 tons per year. \

He concluded, SLC is working with many countries on waste management systems, including Sri Lanka, Mongolia, Algeria, etc. According to Paris Agreement, Article 6.2 (Cooperative approach) South Korean government is finding other countries which have this type of project.

Dr. Tonia Astrid Capuano
Visiting Fellow, International Center for Ocean Government (ICOG)
Dhaka University
&
Dr. K.M Azad Chowdhury
Chairman, Department of Oceanography, Director, International Center for Ocean Government, Dhaka University

A presentation was jointly presented by Dr. Tonia Astrid Capuano and Dr. K.M Azad Chowdhury on the solution to Marine Pollution.

During the presentation, Dr. Tonia Astrid Capuano stated that marine pollution is transboundary. From upstream sites, the pollutants are carried down to downstream areas and enter the ocean irrespective of international borders. There are many types of waste pollution, such as Agricultural runoff, Solid waste dumping, etc. There island-based marine pollution, such as Textile, Agriculture, Construction, etc.

She stated that scientists have estimated that there will be more plastic in oceans than fish by the year 2050. All this pollution has huge consequences for the marine environment, such as creating oceanic dead zone, and bioaccumulation. It also impacts human health, for example-

coastal water contamination is responsible for 250 million clinical cases of human diseases annually. It takes a huge toll on the economy. The direct medical and health costs of polluted waters are 16 billion US dollars per year.

Dr. K.M Azad Chowdhury highlighted during the presentation that in Bangladeshi coastal areas, there are more than 8,542 industries. Those industries discharge nearly 40,000m3 daily. Bangladesh imports 3.5 million tons of crude and refined oil, from which 4000-6000 tons are dumped yearly in into the Bay of Bengal. (BoB). The shipbreaking industry in Sitakundo, Chittagong is harmful to the environment.

He said, these pollutants can consequently affect the vision to reach the blue economy and blue growth. Bangladesh is the 10th most plastic-polluting country in the world. Per year 2 lakh tons of plastic enter the Bay of Bengal. 8000 billion microbeads are released from Dhaka. Microplastic pollution is highest in the Karnaphuli River. Mostly coming from shipbreaking.

Dr. K.M Azad Chowdhury concluded that a proper waste management system, a waste management solution like Korea and awareness is needed.

Dr. Nina Tsydenova
Environmental Specialist, The World Bank

Dr. Nina Tsydenova attended the event online. She presented a presentation titled `Plastic Waste in Road Construction – A Road Worth Paving'. She highlighted that there are two processes in plastic road construction. Those are wet and dry processes. They are focusing on the dry process, because it mostly spread in South Asia. In the dry process the polymer servers the role of bitumen modifier.

She stated that, PVC can't be used because of fumes and other problems. They are trying to identify the readiness of this technology. The main issue is microplastic and nano plastic generation from the friction of tires or cars, not from the roads themselves. There are very limited data for cost-benefit analysis. This needs to be studied further.

Questions from the floor

There were few questions from the floor.

- how green remediation strategies are going to be helpful and effective in managing lead poisoning. And how to scale up those strategies?
- What is the current status of presented works, especially lead poisoning, and how much these are aligned with the SDG target? What is the way forward to meet this target?
- What is the current status of the EPR guidelines. He asked when can we see that, and the enforcement of that?

- There are regulations about marine environment, but those are not being enforced. Why is that happening?
- What can people/citizens do to help?
- How to look at opportunities? And how to involve the private sector?
- Plastic treaties have been signed before. What are the differences this time?

Answered by the panelists

Dr. Abdul Hamid, Director General, Department of Environment (DoE) said that DoE is addressing the lead pollution issue, particularly through their legislative tools like the Environmental Protection Act 1995 and also the Environmental Conservational Rules. They are the standards for different industries. There are few actions. For example,

- In 2021 Ministry of Forest and Climate Change released a circular that, the producers of lead batteries have to buy it back through a certain procedure.
- Apart from that, pursuit to hunt those who are not complying with the instructions are going on. Through mobile courts enforcement initiatives are being taken and destruction of those facilities where they used to process these batteries illegally in areas other than the scheduled premises.

He also highlighted that DoE proposed to Ministry of Commerce not to proceed with the permission to import recycled batteries in Bangladesh.

Regarding the air pollution Dr. Abdul Hamid said that the Department of Environment have Air Pollution Control Rules 2022, where all issues like – the air quality management plan, and

degraded air shed management issues are being addressed. Work on degraded air shade management is going on as well.

Regarding the development of EPR guidelines He stated that hopefully, within 3 months they will come up with the final versions of the EPR guideline as specified in solid waste management rules 2021.

Dr. Abdul Hamid also said that there is a project going on to identify the amount of marine litter.

Regarding the green growth issues question Dr. Abdul Hamid said, The South Asia Environment Co-Operative Program is stationed in Sri Lanka. Bangladesh is the head of that governing body. They have taken one program known as plastic free Rivers in South Asia. Bangladesh is also working with four of the neighboring countries regarding air pollution issues.

Mr. Saber Hossain Chowdhury MP said that A law is being developed according to the realities of Bangladesh. So that it can be implemented. Discussion with the private sector is ongoing. In the end, there is no option besides the circular economy. Right now there is a linear model.

Speeches of the Guests

Dr. Iqbal Abdullah Harun
Additional Secretary, Ministry of Environment, Forests, and Climate Change

In his speech, Dr. Iqbal Abdullah Harun said that I think the objective of today's event was to sensitize ourselves. He stated that, Coordination among ministries is needed. He stressed that, 17.9 percent of GDP is being lost. If action is taken, maybe at least a portion of it can be saved. He urged that, partners are needed within the ministries.

Furthermore, he added that the environment is not a small issue. There are a lot of powerful people involved. The Ministry of Environment or Ministry of Forest and Climate Change is not powerful enough to take action. He concluded that environment education should start from the primary.

Saber Hossain Chowdhury M.P.
Chairman, Parliamentary Standing Committee
Ministry of Environment, Forests and Climate Change

In his speech Saber Hossain Chowdhury highlighted that there was some shocking information. Specially 2 statistics. One is, Environmental harm is equivalent to 17.65 percent of the GDP. Another one was 2,72,000 premature deaths due to pollution, which is more than Covid deaths.

He stated that, covid was treated with emergency. Priority should be pollution. Public health and environmental health should be improved. Everyone should take steps. The next 50 years of development in Bangladesh will depend on Public health and environmental health.

He said that this type of analysis or statistics should be done by Bangladesh Government. He requested The World Bank to help build capacity in ministries so that in the future this type of exercise can be done by them.

Saber Hossain Chowdhury stated that, there are 43 interventions. A list should be developed based on two things, those are, which of those costs less and how fast that can be implemented. Quick action and starting the process are necessary.

He made few recommendations. Those are,

- Coordination among ministries is needed.
- Everyone should have responsibilities.
- Government agencies should respect and abide by laws.
- Companies should invest in green technologies.
- Development partners can help Bangladesh with the technology needed.

Bondhu Chula was given to Dhaka University two departments by Bondhu Foundation.

In a brief address Dr. Abdul Hamid, Director General of, the Department of Environment (DoE) thanked organizers, guests, and participants.

Recommendations from the event

- Laws are there but more uniform implication is needed.
- The industry has a role to play.
- A waste management solution like Korea is needed.
- Awareness is needed.
- Coordination among ministries is needed.
- Government agencies should respect and abide by laws.
- Companies should invest in green technologies.
- Development partners can help with the technological option.
- Enforcement of laws and regulations to prevent lead chromate use in spices
- Increase monitoring regarding lead is needed.
- Expansion of the Toxic Site Identification Program (TSIP) is needed.
- Source identification is needed.
- To reduce blood lead levels 3 actions can be taken. Those are, iron supplements for children, replacing aluminum cook level, and Rehabilitation of an abandoned ULAB recycling site in Kathgora.

Actions taken

- Pure Earth has done three remediation projects. One was in Kathagora before covid (November 2017- February 2018), the Second remediation project was in Mirzapur, Tangail from December 2021 to May 2022 and the third remediation project was in Mohammadnagar, Khulna, from March 2023 – ongoing.
- Before going into remediation pure earth has taken some steps. Such as community engagement.
- Youth engagement was another step of pure earth.
- Lead concentration declined by 96 percent after soil remediation.
- BLL declined by 35 percent after soil remediation in Kathgora.
- In 2021 Ministry of Forest and Climate Change released a circular that, the producers of lead batteries have to buy it back through a certain procedure.
- Apart from that, pursuit to hunt those who are not complying with the instructions are going on. Through mobile courts enforcement initiatives are being taken and destruction of those facilities where they used to process these batteries illegally in areas other than the scheduled premises.
- Department of Environment have Air Pollution Control Rules 2022, where all issues like – the air quality management plan, and degraded air shed management issues are being addressed. Work on degraded air shade management is going on as well.
- There is a project going on to identify the amount of marine litter.

Observations

- Plastic, air, water, and solid waste pollution has a devastating effect on everyday life.
- Integrated pollution management is important for a clean and healthy Bangladesh.
- In 2019 pollution caused 27,000 premature deaths, which was about 1/3rd of all death in the country.
- It resulted in 5.2 billion days of illness.
- The cost of pollution is equivalent to 17.2 percent of the country's GDP in 2019
- Environmental pollution is exerting a heavy toll on children.
- Lead poisoning is particularly affecting children; it causes irreversible damage to their cognitive capacity, trapping them in the poverty cycle by learning and productivity impairment.
- Bangladesh simply cannot afford to ignore the environment.
- Preventing environmental degradation and ensuring climate resilience is critical for becoming an upper-middle-income country by 2041.
- Experiences around the world show it is possible to grow cleaner, greener without going slower.
- An estimation says, 32 percent of all death in 2019 is caused by pollution (Over 2,72,000)
- There is a very high health burden and cost of lead pollution

- There are so many sources of lead pollution that cause enormous health impacts on children, impacting their cognitive development, and intelligence.
- Also, cardiovascular disease and mortality were observed in the adult population.
- The analysis found that lead is causing over 60 thousand deaths (61,800).
- A cost-benefit analysis was done of 43 possible interventions to address this problem.
- The identified 43 interventions could reduce the health effects by about half.
- 1 in 3 children, more than 800 million have blood lead levels at or above 5 µg/dl.
- Lead is harmful to children; it especially affects their brains.
- In Bangladesh, blood lead levels among children are 6.83 µg/dl.
- 35.5 million children in Bangladesh have blood lead levels above 5 µg/dl.
- Nearly 10 million of these children have a blood lead level above 10 µg/dl.
- 70 percent of intellectual disability in Bangladesh is due to lead poisoning. (who 2019)
- from lead exposure, the country loses 6 percent of its GDP which amounts to roughly 16 billion dollars annually.
- IEDCR conducted research in four hotspots in Bangladesh. Among the two are high-risk districts, Tangail and Khulna, and two are low-risk districts, Sylhet and Patuakhali.
- In those districts, lead was found in 100 percent of all age group children, more in males.
- Around 65 percent of study children had blood lead levels above 3.5 µg/dl.
- Nearly 40 percent of children had blood lead levels above 5 µg/dl.
- Sources of lead exposure are not limited to Used Lead Acid Battery (ULAB) recycling activities. Sources are diverse.