Newsletter | May 2024

Green News

West Bengal Pollution Control Board

Mission LiFE– each step towards a sustainable future

Dr. Kalyan Rudra delivering his speech

The West Bengal Pollution Control Board has organized a workshop cum model exhibition at Matha Forest Resort in Purulia on 18 & 19 April, 2024, where the students of 20 schools showcased innovative models on Mission LiFE.

The event was graced by the Chairman, WBPCB, Dr. Kalyan Rudra and Member Secretary, WBPCB, Dr. Rajesh Kumar. Dr. Rudra shared his wise thoughts on several environmental threats that the planet faces. He talked about the soaring warm temperatures of the location and pointed out global warming as the reason behind it. He mentioned that the World Meteorological Society and West Bengal Weather Department have already declared 2023 as the warmest year in the last 150 years.

According to Dr. Rudra, the reason for such a blazing climate has been rapid and arbitrary deforestation, resulting in the rapid decline of local forests all over the state. The adverse effects of these changes have also affected the annual rainfall pattern of the region, where the southwestern monsoon winds splits into Northwestern, covering states of Gujarat, Maharashtra, and Rajasthan, and the other half of the split enters the Bay of Bengal and eventually ends up in parts of Bengal, Bangladesh, and then diverts to wards Northwest into states of Bihar, UP.

Dr. Rudra also informed everyone about how human exploitation over Mother Nature has time to time damaged its major four pillars, namely the atmosphere, lithosphere, hydrosphere, and biosphere. As humans have gone on a mindless pillage of the environment over the last couple of decades of over-extract and over-consumption, the ecological footprint has also increased by more than two folds. According to some researchers, humans have already breached three out of all possible nine planetary limit criteria, and this only means that the world is further inching towards a darker abyss.

Dr. Kalyan Rudra also appealed to the students to adopt some small habits like turning off running water taps in their locality or turning off lights and other appliances if not in use in their schools. He also urged for smart use of plastic and to eliminate single use plastic. He envisions a better understanding of how to heal nature itself. This can only happen if the students, who are the flag bearers, join hands with Mission LiFE for a sustainable future.

During the event Dr. Rajesh Kumar, IPS, Member Secretary, WBPCB spoke about the impact of the recent heat waves on the environment in West Bengal and other parts of India. He also emphasized the dangers of careless alterations of nature and high lighted the recent heavy rainfall in the Middle East due to continuous cloud seeding. Dr. Kumar also addressed the issue of stubble burning which causes large smoke clouds that affect the air quality. To address this problem the West Bengal Pollution Control Board has installed Air Quality Index monitoring stations throughout the State. They have also provided Smokeless Chullahs to the rural households to reduce household pollution. Additionally the board has installed GIS based monitoring systems to reduce stubble burning practices. Dr. Kumar also brought attention to the destruction of microflora and microfauna due to rapid desertification in Purulia and other parts of the State. He highlighted that this is a result of 50 years of extraction and exploitation. In terms of Mission LiFE's vision for Purulia, the West Bengal Pollution Control Board aims to establish composting plants with the assistance of local schools. They also plan to make use of agricultural waste like leaves and jute fibers. These initiatives are a step towards a greener and healthier environment for the people of Purulia.

Dr. Rajesh Kumar delivering his speech

Editorial

The May issue of 'Green News' comes with quite impactful activities and events of the State Pollution Control Board. These events include workshops, exhibitions, competitions and some innovative steps to tackle different types of pollution across the State.

The Board observed two environmentally important days, like 'Earth Day' and 'International Day of Biological diversity' as per the curriculum under the EEP of MoEF&CC, Govt. Of India. Both the programmes were organised in hybrid mode where a number of students and teachers from different schools and colleges participated physically and also on digital platforms.

Yet another Workshop cum Model Exhibition along with a Sit & Draw competition was organized at Matha Forest Resort, located near picturesque Matha Forest area adjacent to Matha hills in Baghmundi block of Purulia district. Culturally rich Purulia is the westernmost district of West Bengal, having national significance for its tropical location and also famous for its traditional folk dance "Chhou". The district acts as a gateway between the developed industrial belts of West Bengal and the hinterlands in Orissa, Jharkhand, Madhya Pradesh and Uttarpradesh. Many students participated on both the events with utmost enthusiasm. They showed up their excellence by applying their innovative ideas through unique creativity in the form of models and drawings based on Mission LiFE themes. I was so impressed to witness their dedication and love for nature through their creations.

As committed earlier, the WBPCB installed Cloth bag Vending machines at some other market places in Kolkata which have gained huge popularity and also proved to be very effective to fight against single use plastic carry bags.

Apart from this, the State Board takes several efforts including implementation of proper management plan as well as creating public awareness as a whole to minimize the menace of Plastic waste and E-waste. A few seminars have been organized across the State to create awareness about its harmful effects and the probable solutions by stressing upon reduce, reuse and recycling. Recently, the Bengal Chamber of Commerce & Industry (BCCI) and Indian Institute of Materials Management (IIMM) organized a one-day workshop on E-Waste Management –Awareness & Recycling which was also supported by the West Bengal Pollution Control Board.

I am very happy to come up with this monthly Newsletter presenting a brief overview of the State Board's manifold activities and hope that the endeavour will continue successfully in the days ahead.

Dr. Rajesh Kumar, IPS
Member Secretary, WBPCB

Natural treatment for Industrial chimney exhausts

The students of BSS Central Public School displayed a model on natural treatment for industrial chimney exhausts. Industrial chimney exhausts often contain harmful pollutants like sulphur dioxide, nitrogen oxides, and particulate matter, posing significant environmental and health risks. Microbial filters offer a sustainable solution by harnessing the power of microorganisms to break down these pollutants into less harmful substances. In this process, exhaust gases are passed through a filter system containing specially selected microbes. These microbes metabolize the pollutants, converting them into less toxic compounds or capturing them within the filter matrix. This reduces the emission of harmful substances into the atmosphere. Additionally, greenhouses can be integrated into this system to further treat the exhaust gases. Greenhouse plants naturally absorb carbon-dioxide and other pollutants, effectively purifying the air. By channeling the filtered exhaust gases through greenhouses, the plants can uptake remaining polluants, enhancing air quality.

The students of B.S.S Central Public School with their model

Students of The Assembly Of God Church School with their models

The students of Balarampur Fullchand H.S. School with their model

Students of Chanditala Shikshaniketan with their model

Dr. Kalyan Rudra and Dr. Rajesh Kumar inaugurating the workshop cum model exhibition in Purulia

Students at the workshop cum model exhibition, in Purulia

Automatic solar-powered irrigation systems, a boon for water efficient irrigation

Automatic solar-powered irrigation systems revolutionize traditional farming practices by harnessing the sun's energy to efficiently water crops while minimizing water wastage. These systems utilize solar panels to generate electricity, which powers pumps to draw water from a source like a well or reservoir. What sets them apart is their integration with moisture sensors placed in the soil. These sensors continuously monitor the moisture level of the soil. When the soil becomes too dry, indicating a need for irrigation, the system automatically activates the pumps to deliver water to the crops. Once the soil reaches an optimal moisture level, the system shuts off the pumps, preventing overwatering. This intelligent regulation of irrigation water based on real-time soil moisture data ensures that crops receive just the right amount of water they need, promoting optimal growth while conserving water resources. Additionally, being solar-powered, these systems are environmentally friendly and cost-effective, as they rely on renewable energy and require minimal maintenance compared to conventional irrigation methods.

Recycled furniture – sustainable choice for modern living

Dr. Kalyan Rudra and Dr. Rajesh Kumar taking a glance at the displayed model

Plastic waste poses a significant environmental challenge, but innovative solutions are emerging to repurpose this material into useful products like furniture. By compressing plastic waste into dense blocks or pellets, it can be molded into various shapes, including chairs, tables, and benches.

The students of Shantamoyee Girls Higher Secondary School explained that through processes like extrusion or injection molding, these compressed plastic blocks can be transformed into durable and weather-resistant furniture pieces. The versatility of plastic will allow for creative designs and customization, making it suitable for both indoor and outdoor use. Repurposing plastic waste into furniture will not only diverts it from landfills and oceans but will also reduce the demand for virgin materials, contributing to a circular economy. Moreover, furniture made from recycled plastic is lightweight, easy to clean, and often more affordable than traditional alternatives, making it an attractive and sustainable choice for modern living spaces. The students also meticulously used some of their own plastic based furnitures in their schools. This reflects how determined they truly are towards recycling of plastic and its management.

Rainwater harvesting and its use in electricity production

Students of Bagmundi H.S School with their model

Rainwater harvesting presents a dual opportunity to conserve water and generate electricity. By collecting rainwater in reservoirs or tanks, potential energy is stored. When released through turbines, this water flows downhill, spinning the turbines and generating electricity through hydroelectric power. This method taps into nature's cycle, utilizing rainwater's gravitational potential to produce renewable energy. Rainwater harvesting systems equipped with turbines offer a sustainable solution to water scarcity and energy needs, contributing to environmental conservation and reducing reliance on fossil fuels.

Eco-friendly Brick – New way towards sustainability

Students of Santamoyee Girl's Higher Secondary School with their displayed model

The students of Santamoyee Girls Higher Secondary School showcased their unique model under theme Mission LiFE. They presented a very genius solution towards traditional construction ways. They showcased eco-friendly bricks. The process begins by mixing paddy remains with cow dung ash and calcium hydroxide to form a homogeneous mixture. This mixture is then compressed into brick molds and allowed to cure. Paddy remains, which are often burned after harvest, are rich in silica, a key ingredient in brick production. Cow dung ash, when combined with calcium hydroxide which with oxygen exposure forms CaCo3. The resulting eco-friendly bricks not only utilize agricultural waste but also have excellent thermal insulation properties and high durability. By incorporating these natural materials into brick production, construction becomes more sustainable, reducing the demand for conventional building materials while mitigating the environmental impact of waste disposal.

Additionally, eco-friendly bricks offer a viable solution for affordable and eco-conscious housing construction, promoting sustainable development practices.

Dr.Kalyan Rudra and Dr. Rajesh Kumar giving away the Best of 5 prize to Santamoyee Girl's Higher Secondary School

Dr. Kalyan Rudra and Dr. Rajesh Kumar giving away the Best of 5 prize to D S K D A V Public School

Dr. Kalyan Rudra and Dr. Rajesh Kumar giving away the Best of 5 prize to Sainik School

Dr. Kalyan Rudra and Dr. Rajesh Kumar giving away the Best of 5 prize to B S S Central Model School

Dr. Kalyan Rudra and Dr. Rajesh Kumar giving away the Best of 5 prize to Ramakrishna Mission Vidyapith

Dr. Kalyan Rudra and Dr. Rajesh Kumar planting a sapling at the event

Students at the workshop cum model exhibition in Purulia

Dr. Kalyan Rudra and Dr. Rajesh Kumar taking a glance at the displayed model

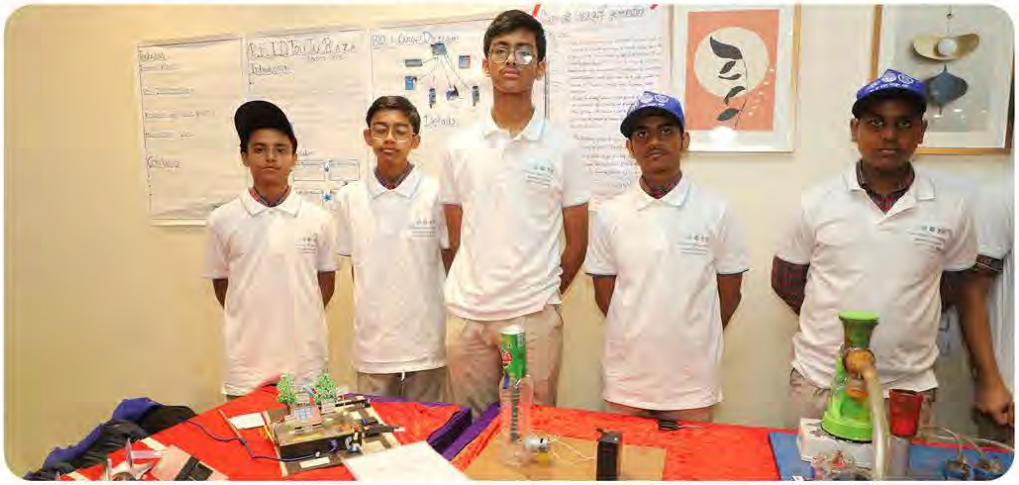
Terrestrial unmanned botanic investigator (TUBI)

Terrestrial unmanned vehicles equipped with advanced sensors and imaging technology, play a vital role in modern agriculture by providing real-time data on plant growth, soil quality, and other crucial parameters. The students of Sainik School, Purulia showcased their model, TUBI. These vehicles, commonly known as agricultural drones or rovers, traverse fields autonomously, collecting high-resolution images and sensor data. By analyzing this data, farmers can accurately assess plant health, identify areas of stress or disease, and opti- mize irrigation and fertilization practices. Additionally, these vehicles can measure soil moisture, nutrient levels, and compaction, aiding in precision agriculture techniques. The use of these vehicles not only enhances crop yields and quality but also reduces labor and resource costs, making agriculture more sustainable and efficient. With their ability to ga- ther detailed insights over large areas quickly, these vehicles are revolutionizing farming practices worldwide.

Students of Sainik School, Purulia with their displayed model

RFID sensor systems for energy efficient and faster commute

The students of D S K D A V Public School came up with a model on RFID. Radio Sensor Identification Systems offer a promising alternative to traditional toll plaza fast tagging, significantly reducing car queues and consequently cutting down on emissions. Unlike fast tagging, where vehicles need to slow down or stop at toll booths to allow for tag reading, radio sensor identification systems operate seamlessly. These systems utilize radio frequency identification (RFID) technology or similar wireless com munication methods to identify vehicles as they approach the toll plaza. With RFID tags installed on vehicles, sensors placed along the road can quickly and accurately detect and identify each vehicle, allowing for automated toll collection without the need for stopping or slowing down. By eliminating the need for vehicles to queue up at toll booths, radio sensor identification systems drastically reduce congestion and idling, thereby minimizing emissions from vehicles stuck in traffic. Furthermore, the energy efficiency of these systems lies in their streamlined operation and minimal infrastructure requirements. Compared to traditional toll plazas, which rely on manual toll collection or electronic toll collection systems, radio sensor identification systems offer a more efficient and environmentally friendly solution for toll collection on highways and roads.



Students of D.S.K D.A.V Public School with their displayed model

Reduce, reuse and recycle plastic bottles

Plastic bottles are incredibly versatile materials that can be recycled into plastic threads, offering a sustainable solution to waste management. The students of Ramakrishna Mission Vidyapith showcased their model on recycling plastic bottles. The plastic bottles are cleaned, shredded, and melted down to form long strands or threads of plastic. These threads can then be used in various industries, such as textile manufacturing, to create fabrics for clothing, bags, and other products. Recycling and reusing plastic bottles not only reduce the amount of plastic waste in landfills and oceans but also conserve energy and resources that would otherwise be used in producing new materials. By incorporating recycled plastic threads into products, we minimize the demand for virgin materials, thus lessening the environmental impact associated with their extraction and production. This cycle of recycling and reusing plastic bottles not only promotes sustainability but also encourages a circular economy where resources are conserved, reused, and recycled to minimize waste and preserve our planet for future generations.

Students of Ramakrishna Mission Vidyapith, Purulia with their displayed model

Benefits of traditional mud houses in today's modern world

Mud, readily available and low-cost reduces the need for resource-intensive materials like bricks or concrete. The students of Pandit Raghunath Murmu Adarsha Abshik Vidyalaya, Purulia displayed mud houses under Theme Mission LIfe, which have excellent thermal properties, keeping interiors cool in hot climates and warm in cold ones, reducing the need for artificial heating or cooling. Additionally, mud is a biodegradable material, minimizing environmental impact at the end of a structure's lifecycle. Furthermore, constructing mud houses often involves minimal machinery or engegy consumption, contributing to lower carbon emissions. Overall traditional mud houses stand as exemplars of eco-friendliness, blending harmoniously with nature while offering comfortable and sustainable living spaces.

Students of Pandit Raghunath Murmu Adarsha Abshik Vidyalaya with their displayed model

Installation of Cloth Bag Vending Machines at different marketplaces in Kolkata

After the first installation at Saltlake CA market on 11 March, 2024, the West Bengal Pollution Control Board successfully installed a number of similar types of Cloth bag Vending machines at different market places across the city of Kolkata during April, 2024 to eradicated harmful Single-use-plastic carry bags.

SL. No.	Market Name	No. of machines	Installation Date
1	KIT Kasba Martket	2	22.04.2024
2	KIT (Tollyhunge) Market	1	22.04.2024
3	KIT Lake Gardens Super Market	1	22.04.2024
4	KIT Jadavpur Super Market	2	17.04.2024
5	AB-AC Market, Salt Lake	1	17.04.2024
6	BD Market, Salt Lake	2	17.04.2024
7	IA Market, Salt Lake	1	17.04.2024

Celebration of Earth Day- 2024

Since inception in 1970, Earth Day, an annual environmental event is celebrated every year on 22 April. Gradually, it has become a global environmental movement, with over 190 countries participating in various activities like tree plantings, recycling drives, climate marches, educational events etc. to promote environmental awareness. Thus, Earth Day has become a symbol of hope and solidarity in the fight against environmental destruction in order to save the Earth- the only place to live.

Celebration of Earth Day- 2024 on hybrid mode at Paribesh Bhawan, Kolkata

The UN theme for Earth Day- 2024 is **'Planet vs. Plastics'**. This theme underscores the urgent need to address environmental degradation as well as human health hazards, biodiversity loss all because of the harmful impacts of single-use plastics. The day inspires us to take commitment in order to end the menace of plastic waste pollution for the sake of human as well as planetary health demanding a 60% reduction in the production of all kind of plastics by 2040.

The WBPCB observed the auspicious day on 22 April, 2024 in hybrid mode (both online & offline) at the Conference Room of Paribesh Bhawan, Bidhannagar, Kolkata. Dr. Rajesh Kumar, IPS, Member Secretary, WBPCB welcomed everyone including the dignitaries, senior State Board officials, students and teachers of different schools and colleges enlisted under the EEP. He briefed the main objective as well as the significance of celebrating Earth Day explicitly.

Dr. Kalyan Rudra, Chairman, WBPCB explained about the present environmental adversities, like temperature rise, flood, drought etc., probable reasons behind these and also the remedies concisely. He also talked about the Central Government rule regarding banning plastic carry bags below 120-micron thickness and Mission LiFE Programme regarding bringing about small lifestyle change for the betterment of the environment. He mentioned about the Mission LiFE theme- **'Single-use Plastic Reduced'** among its seven themes, which comprises several actionable points like using eco-friendly bags instead of SUP, discarding other plastic items, like bottles, cutlery, use of recycled items etc. He expressed that these types of simple but concrete steps will help us to achieve the goal of making our planet free from the hazards of plastic pollution.

During the interaction session, some students and teachers shared their views. About 23 students of the following schools and colleges participated in the programme physically:

1. Krishnapur Adarsha Vidyamandir, Dum Dum, Kolkata.
2. East Calcutta Girl's College, Kolkata.
3. Derozio Memorial College, Kolkata.

About 100 students and teachers participated in the programme virtually. A number of viewers watched the same through Social Media platform. The programme ended with vote of thanks.

Speech delivery by Chairman and Member Secretary of the WBPCB

Participants in the event

E-Waste Management, awareness & Recycling Solution

The Bengal Chamber of Commerce & Industry (BCCI) and Indian Institute of Materials Management (IIMM) organizedaone-day workshop on E-Waste Management –Awareness & Recycling on 17 May, 2024 atBengal Chamber House, Kolkata supported by the West Bengal Pollution Control Board.

Dr. Rajesh Kumar, IPS, Member Secretary, WBPCB was the Chief Guest of the programme. Shri Sambit Dasgupta, BCCI, Shri Sudipto Basu, IIMM, and Shri Sanjay Gupta, IIMMgraced the inaugural session of the workshop. Dr. T.K. Gupta, Chief Technical Advisor, WBPCB, Shri Anjan Fouzdar, Environment Engineer, WBPCB and Shri Anindya Banerji,WEBEL delivered their valuable speeches during the technical session, which was followed by the interaction session. The speakers highlighted the harmful effects of E-Waste materials on environment. It is advised to follow the guidelines as per rule and recycle the E-Waste materials through authorized recyclers. The session ended with vote of thanks to and from the chair. Approximately 150 participants from BCCI, Industry, Govt. Sectorsand Recyclers attended the workshop.

Celebration of the International Day for Biological diversity- 2024

The West Bengal Pollution Control Board observes the environmentally important days throughout every year as per the guidelines of the Ministry of Environment, Forests & Climate Change, Govt. of India. In this context, the State Board observed the International day for Biological diversity- 2024, which is also an annual occasion celebrated on 22 May every year throughout the World. The day seeks to enhance understanding as well as awareness about rich biological diversities spread all over the World and focuses attention on some related issues.

Speech by Dr. Kalyan Rudra and Dr. Rajesh Kumar

In December 2022, the world came together and agreed on a global plan to transform our relationship with nature. The adoption of the Kunming-Montreal Global Biodiversity Framework, also known as The Biodiversity Plan, sets goals and concrete measures to stop and reverse the loss of natural bio diversity by 2050. This year, the theme of the International Day for Biological Diversity is "Be part of the Plan". This is a call to action to encourage governments, indigenous people, local communities, students, teachers, non-governmental organizations, lawmakers, businesses and individuals to highlight the ways in which they are supporting the implementation of the Biodiversity Plan.

The State Board observed the day on 22 May, 2024 at the conference Room, Paribesh Bhawan, Kolkata in hybrid mode. Shri Subrata Ghosh, Officer on Special Duty, WBPCB cordially welcomed all the officials, students and teachers present in both online and offline mode. He briefly explained the main objective as well as the significance of the auspicious day highlighting the theme of this year's International day for Biological diversity.

Participation of students both online and offline mode

Dr. Rajesh Kumar, IPS, Member Secretary, WBPCB beautifully described the importance of different plants, animals present in nature and maintaining the balance of ecosystem properly for a sustainable future. He also pinpointed about environmental destruction and extinction of many species due to human activities which is a serious threat to all of us.

Dr. Kalyan Rudra, Chairman, WBPCB gave an intriguing speech about rich biological diversity spread all over the world, its significance in the present environmental perspective. Most importantly, he stressed upon dependence between biodiversity and human existence. Heurged everyone present in the programme, especially the students of different schools, colleges across the State to be more sensible towards protecting our nature and also the biological diversities in the form of flora and fauna, because every life is precious on the Earth hence, they must betaken care of for the sake of human survival.

Dr. T. K. Gupta, Chief Technical Adviser, WBPCB thanked to the chair, senior Board officials and all the students and teachers for participating and encouraged to be a part of preserving biodiversity as well as the environment to make our State clean and green.

20 students of Derozio Memorial College, Kolkata and Sarsuna college, Kolkata attended the programme physically, 100 students of different schools and colleges joined it virtually. Apart from this, a number of viewers watched it on social media platform.

Students with Dr. Kalyan Rudra and Mr. Subrata Ghosh

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