



SH. SUKHVINDER SINGH SUKHU

Hon'ble Chief Minister,
Himachal Pradesh

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On the occasion of the International Day for the Preservation of the Ozone Layer, I urge all citizens of Himachal Pradesh to join hands in safeguarding our planet's protective shield i.e. Ozone Layer.

Let us take a pledge to reduce the use of harmful chemicals, promote sustainable practices, and spread awareness about the importance of the ozone layer. Together, we can ensure a healthier environment for future generations. Let us commit today to protect the ozone layer, preserve the Earth's atmosphere and save life.



A Quarterly Newsletter – Himachal Pradesh State Pollution Control Board

ecologic update



OZONE DAY SPECIAL (SEPTEMBER, 2024)

World Ozone Day celebrations...

UN proclaims 16th September as World Ozone Day, based on Montreal Protocol Signed in 1987. The objective is to establish a mechanism to take action on Ozone layer protection. The theme for this year World Ozone Day was “**Montreal Protocol : Advancing Climate Action**”.

Broadly, Chemicals containing more carbon atoms linked with Hydrogen Atom are called Hydrocarbons responsible for Ozone layer depletion. Such chemicals are Hydrochlorofluorocarbons (HCFCs),

Halons, Aerosols, etc., being generated from Refrigerators and Air Conditioners and other cooling system.

Industries such as those producing deodorants, foam products, fire extinguishers, and pesticides often use harmful chemicals like halons, chlorofluorocarbons (CFCs), and carbon tetrachloride, which contribute to ozone layer depletion. India is currently in the process of phasing out HCFCs and chemicals used in fire extinguishers, with a target to complete this by 2030.

Himachal Pradesh State Pollution Control Board Initiatives

In 2024, the Himachal Pradesh State Pollution Control Board (HPSPCB) commemorated World

Ozone Day by organizing numerous awareness activities across the state. Following instructions from the Ministry of Environment, Forest & Climate Change, the State Board marked the

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PROTECT THE OZONE SHIELD OF THE PLANET

Ozone layer blocks harmful UV rays from the sun and protects biological processes on the earth, which are essential for sustenance of life.

REDUCE THE USE OF OZONE DEPLETING SUBSTANCES

- CFCs**
(AEROSOLS, REFRIGERATORS, SOLVENTS)
- HALON**
(FIRE EXTINGUISHERS)
- METHYL BROMIDE**
(PESTICIDE)
- HCFCs**
(AEROSOLS, REFRIGERATORS, SOLVENTS)



WHAT TO DO?

- SUPPORTING AND ADHERING TO MONTREAL PROTOCOL;
 - REDUCE ODS EMISSIONS;
 - USE OZONE-FRIENDLY PRODUCTS;
 - MAKE AWARE OTHERS;
 - CONSERVE ENERGY;
 - REDUCE WASTE;
- ADOPT SUSTAINABLE PRACTICES.



A child administering a pledge to protect the ozone layer at Achiever's Hub School Dharamshala, HP



@Official_HPSPCB



AwarenessHPPCB/



wardmembermeenu



hppcb.nic.in

The 84th BOD Meeting held at Shimla

By Shri Anil Joshi (IFS) Member Secretary, HPSPCB

The 84th Meeting of the Board of Director (BOD) of HP State Pollution Control Board was conducted under the chairmanship of Sh. Onkar Chand Sharma (IAS), Chairman, H.P. State Pollution Control Board on 20th August 2024 at the Hotel Holiday Home Shimla. In his opening remarks, the Chairman emphasized that the State Board's legislation is being implemented rigorously. Any deviations or violations are viewed very seriously by this office. He ensures compliance with the State Board's directions across all offices under his control, sparing no one, to protect the State's environment. The Member Secretary provided an overview of the organizational structure, mandate, and functions of the State Board. At the outset, Sh. Anil Joshi (IFS) welcomed Chairman, HP State Pollution Control Board along with other official and non-official members of the BOD meeting and presented the agenda of the State Board. The State Board ratified several decision and compliances of the 82nd & 83rd BOD of the State Board. It was informed that the State Board started auto renewal of Consent to Operate in the case of green categories of industries based on self certification and provided an enabling environment to the industrial community under ease of doing business mechanism.

Sh. Onkar chand Sharma (IAS) Chaired the 84th BOD Meeting

The BOD has ratified 1749 number of industrial units under consent to establish, 1465 units under Consent to Operate and 3815 units for Renewal of Consent to Operate, 598 industrial units under Authorization/ Renewal of Authorization during the period 01.02.2023 to 31.07.2024. Further 810 numbers of authorization/renewal of authorization were granted during the same period under Bio-medical Waste Management Rules, 2016. Many important decisions were taken during the Board Meeting.



Shri Onkar Chand Sharma (IAS), Chairman, HP State Pollution Control Board

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On this International Day for the Preservation of Ozone Layer, let us reaffirm our commitment to protecting the ozone layer and fostering sustainable practices. Together, we can ensure a healthier planet for future generations. Let's act responsibly to preserve our environment.”

Why Is It Important to Protect the Ozone Layer?

Compiled by Shri Shashi Shekhar, Scientific Officer, HPSPCB

The ozone layer is a region of the Earth's stratosphere that contains a high concentration of ozone (O₃) molecules. It is located approximately 10 to 30 kilometers (6 to 19 miles) above the Earth's surface.

The ozone layer plays a crucial role in protecting life on Earth by absorbing and blocking the majority of the sun's harmful ultraviolet (UV) radiation, particularly UV-B rays, which can cause serious health and environmental issues.

Key Points about the Ozone Layer:

1. Composition:

The ozone layer is composed of ozone molecules, which are made up of three oxygen atoms (O₃). Although ozone is present in small amounts throughout the atmosphere, it is most concentrated in the stratosphere.

2. Function:

The primary function of the ozone layer is to absorb and filter out the sun's ultraviolet (UV) radiation, especially the more harmful UV-B and UV-C rays. By doing so, it protects living organisms on Earth from the damaging effects of UV radiation, such as skin cancer, cataracts,

and other health issues in humans, as well as damage to plants and marine ecosystems.

3. Location:

The ozone layer is situated in the lower portion of the stratosphere, at altitudes ranging from about 10 to 30 kilometers (6 to 19 miles) above sea level. The concentration of ozone is highest between 15 and 35 kilometers (9 to 22 miles) above the Earth's surface.

4. Ozone Depletion:

The ozone layer has been depleted by human-made chemicals, such as chlorofluorocarbons (CFCs), halons, and other ozone-depleting substances (ODS). When these substances reach the stratosphere, they release chlorine and bromine atoms that destroy ozone molecules, thinning the ozone layer and creating "ozone holes," particularly over the polar regions.

5. The Montreal Protocol:

In response to ozone depletion, the Montreal Protocol was established in 1987. It is an international treaty aimed at phasing out the production and use of ODS. The treaty has been successful in significantly reducing the emission of these harmful substances, leading to a gradual recovery of the ozone layer.

6. Ozone Holes:

The term "ozone hole" refers to the seasonal thinning of the ozone layer, particularly over Antarctica. This phenomenon is most pronounced during the Southern Hemisphere's spring (September to November), when conditions in the stratosphere favor the destruction of ozone.

The ozone layer is essential for sustaining life on Earth by providing a protective shield against the sun's harmful ultraviolet radiation. Its preservation is vital for the health of the planet and all its inhabitants.

Chemicals depleting ozone layer



Protecting the ozone layer is crucial for several reasons:

1. Shielding from Harmful UV Radiation:

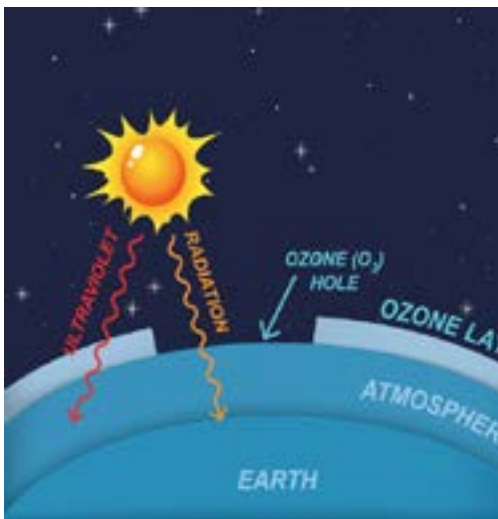
The ozone layer acts as Earth's natural sunscreen by absorbing and blocking the majority of the sun's harmful ultraviolet (UV) radiation, particularly UV-B rays. Without this protective layer, increased exposure to UV radiation can lead to serious health issues in humans, including skin cancer, cataracts, and weakened immune systems.

2. Protecting Ecosystems

UV radiation can harm marine life, especially phytoplankton, which forms the base of the ocean food chain. Disruption at this level can affect the entire marine ecosystem, including fish populations and other species that rely on the ocean for food.

3. Preserving Plant Life

Excessive UV radiation can impair photosynthesis in plants, leading to reduced agricultural productivity and affecting food security. It can also harm forests and other ecosystems, disrupting the balance of nature.



4. Preventing Climate Change

Many ozone-depleting substances (ODS) are also potent greenhouse gases. By protecting the ozone layer and reducing the use of these substances, we also help mitigate climate change and reduce global warming.

5. Maintaining Environmental Balance

The ozone layer plays a critical role in maintaining the balance of the Earth's atmosphere. Disruption to this balance can lead to unpredictable weather patterns, climate shifts, and other environmental changes that can have far-reaching impacts.

6. Human Health

By protecting the ozone layer, we reduce the risk of a range of health problems

associated with increased UV exposure, ensuring a healthier population.

7. Global Environmental Responsibility

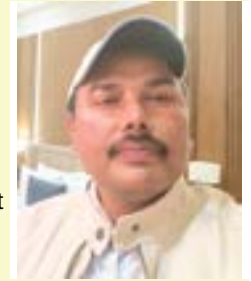
The success of international efforts like the Montreal Protocol in protecting the ozone layer demonstrates the importance and effectiveness of global cooperation in addressing environmental challenges. Continued protection of the ozone layer is a shared responsibility that benefits all nations.

In summary, protecting the ozone layer is essential for safeguarding human health, preserving ecosystems, maintaining agricultural productivity, and mitigating climate change. It is a vital component of sustaining life on Earth as we know it.

Editorial

On World Ozone Day 2024, we must renew our commitment to protect the ozone layer—a critical shield that guards life on Earth from harmful ultraviolet radiation. Thanks to global efforts like the Montreal Protocol, we've made significant progress in phasing out ozone-depleting substances. However, the fight isn't over. We must continue to reduce harmful emissions, adopt sustainable practices, and invest in green technologies. Preserving the ozone layer isn't just an environmental necessity; it's a promise to future generations for a healthier planet. Let's act now, ensuring our collective strides today yield a brighter, safer tomorrow. We dedicate this issue of Ecologic Update to the preservation of the ozone layer on September 16th, 2024. Several articles in this edition focus on deepening our understanding of the ozone layer and reinforcing our commitment to its protection.

Shashi Shekhar, Scientific Officer



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16th September 2024

INTERNATIONAL DAY for the PRESERVATION of OZONE LAYER

Ozone layer blocks harmful UV rays from the sun and protects biological processes on the earth which are essential for sustenance of life.

OZONE: All there is between You & UV

If not blocked by Ozone layer, exposure to ultraviolet radiation can increase the risk of cataracts, skin cancer and other detrimental effects among humans.

How to protect Ozone Layer!

DO'S

- Proper disposal of refrigerator
- Reduce private transport, Use public transport
- Afforestation
- Recycle waste

DON'TS

- Don't buy aerosol products with chlorofluorocarbons (CFC)
- Reduce usage of Air conditioners
- Fruit & vegetable compost
- Reduce usage of insecticides and pesticides

Call our 24x7 toll free Helpline Number - **08045841000** for speedy grievance redressal

H. P. STATE POLLUTION CONTROL BOARD
Him Parivesh, Phase III, New Shimla - 171009

Image-1: The State Pollution Control Board publishes display advertisements each year the World Ozone Day

Water Quality Assessment of River Ashwani along different Topographic Regions of District Shimla

Contributed by: *Er. Lalit Kumar (RO & Env. Engineer) Shimla*

The author examines the spatio-temporal changes in water quality of Ashwani River, which originates from the western slope of the Shimla Urban Agglomeration and flows westward, serving the water needs of downstream urban/rural areas before joining the Giri River. The Ashwani River is one of the polluted stretches in Himachal Pradesh, currently under review by the Hon'ble National Green Tribunal in O.A. No. 673/2018.

1. Background

An O.A. No. 673/2018 was registered in Hon'ble National Green Tribunal on 20.09.2018 on the basis of a news item dated 17.09.2019 published in "The Hindu" under the heading "More river stretches are now critically polluted: CPCB". According to the news item, 351 polluted river stretches were identified by the Central Pollution Control Board (CPCB). Seven (7) such stretches are in the State of Himachal Pradesh and one of them is 'Ashwani River downstream Shimla town' which falls under priority V. The CPCB has a programme to monitor the quality of rivers by measuring BOD. BOD greater than or equal to 30mg/L is termed as 'Priority I' while that between 3.1-6 mg/L is 'Priority V'. The CPCB considers a BOD less than 3mg/L an indicator of a healthy river.

Ashwani River has been categorized as 'Polluted River Stretch of Priority V' having BOD between 3.1-6 mg/L. The assessment of surface water quality is very pertinent to both public health and aquatic life. Water quality has a significant impact on its usage. To determine the quality of a water body, the chemical, biological and physical conditions of a water body must be measured. Chemical

measurements, biological surveys and visual observations provide a big picture of what's happening in a water body. By identifying the various line and point sources of pollution in Ashwani river, we can suggest remedial measures to reduce the impact of these sources on surface water quality and help it in achieving CPCB Water Quality Criteria of Class-B (Outdoor Bathing).

2. About Ashwani River

Ashwani River is the tributary of river Giri which in turn is the tributary of river Yamuna. Ashwani river originates from Kufri hills and is a perennial river which traverses through Shimla town. The Ashwani River in Shimla is formed by Churat Nallah and Jagroti Nallah. The catchment area of Ashwani River in District Shimla mainly comprises of Shimla town, Dhalli, Bhatta Kuffer, Shanan, Malyana, Vikasnagar, Kasumpti, Bishop Cotton School, Fagli, Tutikandi, Taradevi, Chhachhroo, Ganoti, Mehli Shakrara, Beolia, Kawalag, Pujarli, Boh Malothi, Tipra Gadog, Chamiana, Shurala, Gussan and nearby areas. Various drains/ rivulets and nallahs emerging from the Shimla town also meets the Ashwani River. The Ashwani River after travelling a distance of 16 Km enters District Solan at Sadhupul. There is no industrial area in the entire stretch of Ashwani River in District Shimla. However, there are hotels, educational institutes (having boarding facility), service stations, a slaughter house, fruit and a pickle manufacturing unit. After traversing through the Shimla district, Ashwani River enters District Solan upstream of Sadhupul. The catchment area in District Solan mainly comprises of villages Kohari, Galai, Mathia, Andi, Sunnu Tikri, Bayela, Jalkhara, Dawarli and exits District Solan at Village Gaura near Yashwant Nagar. The Ashwani river covers a total stretch of approx. 22 Km in district



Solan. The Ashwani River meets River Giri at Village Gaura in Yashwant Nagar.

3. Water Quality Index of Ashwani River at Various Location along the Catchment.

The Water Quality Index (WQI) is a method used to analyze the water quality of river by using a fixed number of parameters reducing large amount of information into a single digit. This method was initially proposed by Horton (1965) and Brown et al. (1970). The WQI in the current study has been determined by comparing fifteen water quality parameters, namely pH, DO, BOD, TDS, Total Hardness, Bi Carbonates, Chloride, Sulphate, Nitrate, Fluoride, Calcium, Magnesium, Sodium, Potassium and Total Coliform. The WQI has been calculated using the weighted arithmetic index method as per following steps.

Step 1

Calculation of Quality Rating (Q_n)

Pre-Monsoon (April, 2023) Water Quality of Ashwani River at Various Location along the Catchment

Sr. No.	Sampling Site	pH	DO (in mg/L)	BOD (in mg/L)	TDS (in mg/L)	TH (in mg/L)	HCO ₃ (in mg/L)	Cl (in mg/L)	SO ₄ (in mg/L)	NO ₃ (in mg/L)	F (in mg/L)	Ca (in mg/L)	Mg (in mg/L)	Na (in mg/L)	K (in mg/L)	TC MPN/ 100ml (in MPN/100 ml)
1	Raw Water from Churat Nallah	8.28	7.8	BDL	82	58	55	BDL	36.02	0.6	BDL	21.24	BDL	6.47	BDL	26
2	Raw Water from Jagroti Nallah	8.22	7.9	BDL	75	59	36	BDL	30.43	0.63	BDL	20.44	BDL	6.5	BDL	20
3	Lift Nallah Downstream Hotel Combermere	7.23	7.1	3.2	241	140	70	31.99	52.96	9.05	0.29	46.09	6.08	28.13	7.32	920
4	Lift Nallah Near Lalpani Bridge	7.34	7.2	3.6	246	140	82	33.99	53.6	6.4	0.31	48.5	4.62	29.26	7.96	1600
5	Lift Nallah before confluence to Ashwani Khad near Doghra Bridge	7.45	7.6	1.5	184	115	66	23.99	30.53	5.05	0.29	38.88	4.37	23.1	4.78	540
6	River Ashwani before confluence to Lift Nallah	8.28	7.5	BDL	233	139	48	29.49	63.28	11.04	0.28	44.09	7.05	23.48	3.44	140
7	Ashwani River After Confluence to Lift Nallah	7.56	7.4	BDL	206	122	69	26.49	39	5.84	0.3	40.88	4.86	24.42	5.41	17

Post-Monsoon (October, 2023) Water Quality of Ashwani River at Various Location along the Catchment

Sr. No.	Sampling Site	pH	DO (in mg/L)	BOD (in mg/L)	TDS (in mg/L)	TH (in mg/L)	HCO ₃ (in mg/L)	Cl (in mg/L)	SO ₄ (in mg/L)	NO ₃ (in mg/L)	F (in mg/L)	Ca (in mg/L)	Mg (in mg/L)	Na (in mg/L)	K (in mg/L)	TC MPN/ 100ml (in MPN/100 ml)
1	Raw Water from Churat Nallah	7.85	8	0.4	94	48	45	6.5	8.48	0.51	0.1	18.04	0.73	6.83	0.77	110
2	Raw Water from Jagroti Nallah	8.01	8	0.4	81	54	53	5.5	9.85	0.2	0.12	20.04	0.97	7.37	1.04	94
3	Lift Nallah Downstream Hotel Combermere	7.48	6.9	9.6	281	166	118	37	65.6	2	0.18	60.92	3.4	27.9	9.49	350
4	Lift Nallah Near Lalpani Bridge	7.66	6.7	15	324	174	126	58	45.6	1.2	0.23	58.92	6.56	40.2	17.1	1600
5	Lift Nallah before confluence to Ashwani Khad near Doghra Bridge	7.29	7.6	10.6	262	150	88	35	66.2	2.2	0.19	55.31	2.92	28.1	9.04	920
6	River Ashwani before confluence to Lift Nallah	7.38	7.5	0.7	159	90	63	18	20	2.3	0.15	32.87	1.94	17.6	3.61	350
7	Ashwani River After Confluence to Lift Nallah	7.17	7.4	0.9	247	124	69	26	39.3	2.8	0.16	42.89	4.13	21.6	5.57	1600

Let there be 'n' no. of water quality parameters where the quality rating (Q_n) corresponding to the nth parameter is a number which shows the corresponding value of this parameter in the river water with respect to its standard permissible value. The value of Q_n is calculated using the following formula.

$$Q_n = 100[(V_n - V_{id}) / (S_n - V_{id})] \text{ where}$$

Q_n = Quality rating for the nth water quality parameter.

V_n = Measured value of the nth parameter at a given sampling point.

V_{id} = Ideal value of the nth parameter in pure water. It is equal to zero for all water parameters, except Dissolved Oxygen and pH for which it is 14 mg/L and 7 respectively.

S_n = Standard value for nth parameter.

Calculation of Quality Rating for pH (Q_{pH})

For pH, the ideal value is 7 (for natural water) and permissible value is 8.5 (for polluted water). Hence, quality rating for pH will be

$$Q_{pH} = 100[(V_{pH} - 7) / (8.5 - 7)] \text{ where}$$

V_{pH} = observed value of pH at a particular

location.
Calculation of Quality Rating for Dissolved Oxygen (QDO)

The ideal value for DO is 14 mg/L and standard permitted value for pure water is 5 mg/L.

Hence, quality rating for DO will be

$$Q_{DO} = 100[(V_{DO}-14)/(5-14)], \text{ where}$$

V_{DO} = observed value of DO at a particular location.

Step 2

Calculation of unit weight (Wn)

Unit weight for various water quality parameters is inversely proportional to the standard value for the corresponding parameter.

$$W_n = K/S_n, \text{ where}$$

W_n = Unit weight of nth parameter.

S_n = Standard value for nth parameter.

K = Constant for proportionality and is equal to

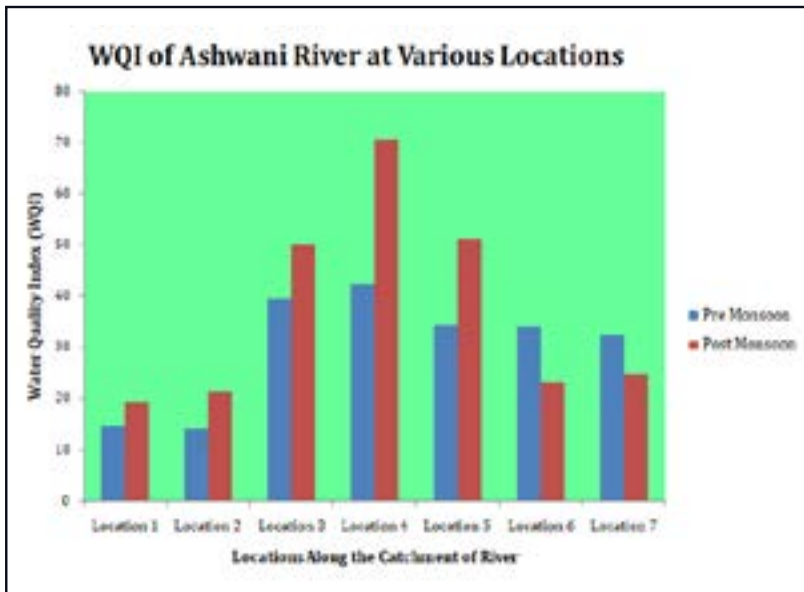
$$K = 1/[1/S_1+1/S_2+1/S_3+.....+1/S_n]$$

Step 3

Class	WQI Value	Water Quality Status
I	< 25	Excellent
II	26-50	Good
III	51-75	Poor
IV	76-100	Very Poor
V	>100	Water Unsuitable For Drinking

Sr. No.	Parameter	Method of Analysis	Drinking Water		Bathing/Recreational Use of Water	
			Standard	Recommending Agency	Standard	Recommending Agency
1	pH	Electrometric Method	6.5-8.5	BIS	6.5-8.5	CPCB
2	DO	Winkler's Method	5	--	5	CPCB
3	BOD	Titrimetric Method (3 Days incubation)	5	WHO	3	CPCB
4	TDS	Gravimetric Method	500	BIS	--	
5	TH	EDTA Titrimetric Method	200	BIS	--	
6	HCO ₃	Titration Method	200		--	
7	Cl	Argentometric Method	250	BIS	--	
8	SO ₄	Turbidimetric Method	200	BIS	--	
9	NO ₃	UV Method	45	BIS	--	
10	F	SPANDS Method	1	BIS	--	
11	Ca	EDTA Titrimetric Method	75	BIS	--	
12	Mg	Calculation	30	BIS	--	
13	Na	Flame Photometer	200	WHO	--	
14	K	Flame Photometer	12	WHO	--	
15	TC MPN/100ml	MPN Method	500		500	CPCB

Sr. No.	Sampling Points	Pre Monsoon	Post Monsoon
1	Location 1	14.52	19.39
2	Location 2	14.06	21.46
3	Location 3	39.58	50.26
4	Location 4	42.38	70.62
5	Location 5	34.4	51.21
6	Location 6	34.08	23.18
7	Location 7	32.47	24.88



Calculation of WQI

WQI is calculated using the following equation

$$WQI = \frac{\sum_{(i=1)}^n Q_n W_n}{\sum_{(i=1)}^n W_n}$$

The acceptable limit values have been taken from the Malagasy drinking Standards. The classification of Water Quality Index will be as under.

4. Results and Discussions.

The analytical results of the Ashwani river for pre-monsoon and post monsoon season are shown in Table: 1 & 2 respectively. The pH of Ashwani river was observed as slightly alkaline during pre-monsoon season. During pre-monsoon season, the minimum pH was 7.23 at Location No. 3 i.e. Lift Nallah Downstream Hotel Combermere and the maximum was 8.28 at Location No. 1 & 6 i.e. Churat Nallah and River Ashwani Before Confluence to Lift Nallah. The concentration of DO in water depends upon parameters such as temperature, chemical composition and organic activity etc. The lowest DO during pre-monsoon season was reported 7.1 mg/L at Location No. 3

i.e. Lift Nallah Downstream Hotel Combermere and maximum 7.9 mg/L at Location No. 2 i.e. Jagroti Nallah. The pre-monsoon BOD was observed BDL (Below Detection Level) at Location No. 1, 2, 6 and 7 i.e. at Churat Nallah, Jagroti Nallah both of which are sources of Ashwani river and River Ashwani before & after confluence to Lift Nallah. Maximum BOD was observed 3.6 mg/L at Location No. 4 i.e. at Lift Nallah near Lalpani Bridge which may be due to the fact that there is lot of legacy waste dumped along the nallah which is the one of the major contributing factor in increasing the BOD load. Besides grey water from Krishna Nagar area (just above the said location) is not connected with the common STP which may also be contributing in BOD load. Total Coliform concentration was observed in the range from 17-1600 MPN/100 ml for pre-monsoon season. It might be contributed due to discharge of untreated/partially treated sewage in the Ashwani river. In addition to this, most of the general parameters have been observed within the permissible limit. Further, during post monsoon season, pH values of samples analyzed at various locations are between 7.17 to 8.01. The lowest DO was observed 6.7 mg/L at Location No. 4 i.e. Lift Nallah near Lalpani Bridge and maximum 8 mg/L at Churat & Jagroti Nallah. The values of BOD which were BDL during pre monsoon season were observed on higher side during post monsoon monitoring. At Location no. 3, 4 & 5, BOD values were observed above the targeted limit of 3 mg/L. The reason for the same may be the fact that excessive rain has occurred this year in Himachal during pre monsoon season and flow has decreased in Ashwani and its tributaries during post monsoon. Total Coliform was observed above the targeted limit of 500 MPN/100 ml at Location no. 4, 5 & 7 i.e. Lift Nallah near Lalpani Bridge, Lift Nallah before Confluence to Ashwani Khad and River Ashwani after Confluence to Lift Nallah. Rest of the parameters were observed within targeted permissible limit. To understand the water quality of Ashwani river, Water Quality Index (WQI) was calculated at various points along the catchment using fifteen parameters i.e. pH, DO, BOD, TDS, Total Hardness, Bi Carbonates, Chloride, Sulphate, Nitrate, Fluoride, Calcium, Magnesium, Sodium, Potassium and Total Coliform. As per WQI, water quality has been categorized into five groups i.e. Excellent (WQI <25), Good (WQI, 26-50), Poor (WQI, 51-75), Very Poor (WQI, 76-100) and Water unsuitable for drinking (WQI > 100). Water Quality Index (WQI) was observed in 'Excellent' category having WQI < 25 at Location No. 1 & 2 during pre-monsoon

Member Secretary inspects M/s Kasauli Distillery Solan

In compliance with the orders of the Hon'ble National Green Tribunal (NGT) in O.A. No. 785 of 2023, titled "Kasauli Distillery Dumps Effluents Into Water Source Supply Affected" as reported in The Tribune dated 15.12.2023, an inspection of M/s Kasauli Distillery was conducted on 23.08.2024. The inspection team was led by the Worthy Member Secretary of the Himachal Pradesh State Pollution Control Board (HPSPCB), accompanied by the Regional Officer, HPSPCB R.O. Parwanoo. (Photographs of the visit are attached as Annexure-1). During the inspection, several



shortcomings were observed. The Worthy Member Secretary issued specific directions to the distillery to address these issues promptly and ensure strict adherence to environmental norms and the conditions outlined in their Consent to Operate.



Sh Sukhvinder Singh Sukhu, Hon'ble Chief Minister, HP, chairing Single window clearance meeting, held on 17th of July at Shimla

season as there is no habitation and these two streams are source of Ashwani river. As we move downwards, WQI has shifted from 'Excellent' to 'Good' at Location No. 3,4,5,6 & 7. WQI was observed highest 42.38 at Location No. 4 i.e. Lift Nallah near Lalpani Bridge. This may be due to the fact that the said location is just downstream of Krishna Nagar which is slum area having no system for scientific disposal of grey water besides lot of legacy waste lying in the stream.

WQI was observed in 'Excellent' category at four locations i.e. Location No. 1, 2, 6 & 7 during post monsoon season. The probable reason for improvement in the water quality at Location No. 6 & 7 is the fact that upgradation of STP Dhalli and STP Malyana has been completed by SJPNL and discharge of partially treated effluent into river Ashwani has now been stopped. WQI at Location No. 3, 4 & 5 has been observed in 'Poor' Category, ranging

from 50.26-70.62. Reason for deterioration in water quality may be legacy waste lying in the Lift Nallah.

5. Conclusion

The water quality of Ashwani river has been evaluated at seven different location in district Shimla using fifteen physio-chemical parameters. The analyzed values of these parameters have been used to calculate WQI. The resultant WQI values of the Ashwani river indicates that water quality is excellent at source i.e. at Churat Nallah and Jagroti Nallah which is suitable for drinking purposes. Thereafter, water quality is slowly deteriorating from 'Excellent' to 'Good' & 'Poor' category and is not fit for drinking. However, it may be used for irrigation. The major sources of pollution are domestic sewage, agricultural run off and solid waste dumping.

Wetlands are important for Environment: Hon'ble CM

Hon'ble Chief Minister, Himachal Pradesh lauded the efforts of all stakeholders for conservation and preservation of the wetlands and said that wetlands cover only six percent of the Earth's surface, yet they were home to nearly 40 percent of the world's plant and animal species. In addition to their rich biodiversity, wetlands provide water, food and livelihoods to the people of the state.

Hon'ble Chief Minister, Sh. Sukhvinder Singh Sukhu inaugurated the 'Wetlands for Life' film festival and forum on 30th August 2024, organized by the HP State Wetland Authority, HP Council for Science, Technology and Environment and the Department of Environment, Science, Technology and Climate Change.

The event featured the screening of short films, including Guardians of Wetlands: Women as Stewards of Conservation, Green Renuka Ji Fair: A Collective Endeavour of Renuka Lake, and Municipal Solid Waste around wetlands in Himachal, initiative of Healing Himalayas.

Speaking on the occasion, Hon'ble Chief Minister said that environmental protection has a priority for the present state government and it was working tirelessly to preserve the natural beauty and ecological balance of the state.

"Last year, Himachal Pradesh faced an unprecedented disaster, one unlike anything we've witnessed in our lifetime. Rising carbon emissions and lifestyle changes are causing the earth's temperature to increase, and we are seeing its severe impacts globally. However, it is not too late. Public participation is vital in tackling this crisis. This responsibility does not rest solely with the government; every individual must actively contribute to this noble cause," said the Hon'ble Chief Minister. The Hon'ble Chief Minister reiterated that to reduce dependence on fossil fuels and lower carbon emissions, the government was promoting e-vehicles. Several efforts are being made on multiple fronts to re-



duce carbon emissions. The Hon'ble Chief Minister said that the state government has allocated Rs. 300 crore to HRTC for purchase of e-buses. Additionally, a foundation stone for a one-megawatt green hydrocarbon project in Nalagarh of Solan district would be laid soon. He also said that the state government was making earnest efforts to harness solar and wind energy with a 32-megawatt solar power plant already operational at Pekhabela in Una district.

The Chief Minister stated that such film festivals play a crucial role in drawing attention to the important issue of wetlands. He said that the protection of wetlands and lakes was essential for survival of our society and future generations and the lessons young people learn through these films would play a significant role in preserving our wetlands.

The Chief Guest of the closing session, Sh. K. K. Pant (IAS), ACS (Forests), ad-

ministered a pledge emphasizing the importance of making conscious choices in daily activities to reduce the impact on wetlands. The pledge encouraged actions such as reducing water consumption and opting for eco-friendly products, aiming to inspire individuals to actively contribute

to wetland conservation for the benefit of future generations. He gave away prizes to the winners of painting competition.



Shri Anil Joshi (IFS), Member Secretary of H.P. State Pollution Control Board, chaired one of the technical sessions and put across his opinion for conserving the wetlands of Himachal Pradesh.

FES India and SPROUTS Environment Trust organise multi-stakeholder consultation at Shimla

On September 16, 2024, coinciding with World Ozone Day, a pivotal day-long consultation on “Making Himalayan Cities Climate Smart” took place in Shimla. The event gathered a diverse group of environmentalists, policymakers, experts, ecologists, and scientists to discuss and devise strategies to address the climate challenges facing Himalayan urban centers. Jointly organized by Friedrich-Ebert-Stiftung (FES) and SPROUTS Environmental Trust, the multi-stakeholder consultation aimed to explore these challenges, foster solution-driven discussions, and promote networking opportunities. The ultimate goal was to develop collaborative solutions, enabling experts, city planners, architects, government officials, and citizens to work together effectively.

In his welcoming remarks, Sh. Pushpinder Rana IFS APCCF Forest Management, HP provided an overview of the environmental degradation observed in the state due to climate change over the last few years. Richard Kaniewski, Deputy Country Director of Friedrich-Ebert-Stiftung (FES) India, set the tone with his introductory remarks, emphasizing the need for collective action to tackle climate change.

Sh. Rajeev Sharma, retired Justice of the Hon'ble High Courts of Himachal Pradesh, Uttarakhnad, Punjab, and Haryana, inaugurated the day-long event and opined that the legal and policy frameworks is necessary to promote climate resilience in the region. He stressed the need to incorporate traditional knowledge and judicial insights into climate action plans to create strong and enforceable policies. He emphasized the need to maintain balance between development and environmental conservation.

Sh. Anil Joshi, IFS and Member Secretary of the Himachal Pradesh Pollution Control Board, presented key insights on environmental management and pollution control measures being implemented by the state. In his keynote address, he emphasized the vital importance of collaborative efforts among all stakeholders to ensure effective management of plastic waste, e-waste, and solid waste, along with the adoption of sustainable practices, in order to tackle environmental degradation in Himalayan cities. Tikender Singh Panwar, environmentalist and

former Deputy Mayor of Shimla, highlighted the impact of climate change on infrastructure in the Himalayan region. He pointed to challenges such as increased rainfall and erosion, stressing the urgency of sustainable development and the proper mapping of vulnerable zones. Mandvi Kulshreshtha, Senior Program Adviser at FES India, explained that the consultation is part of a broader dialogue on sustainability. She emphasized, “By focusing on making Himalayan cities climate-smart, we aim to integrate social justice with urban development.”

Ecologist and SPROUTS Environmental Trust founder Anand Pindarkar stressed the importance of raising awareness about the environmental changes in the Himalayan region. Notable attendees included Tikender Singh Panwar, Rajeev Sharma, Chief Architect of the Government of Himachal Pradesh, Surinder Chauhan, Mayor of Shimla Municipal Corporation, and other senior government officials.

This consultation marks a crucial step toward developing climate-smart strategies to address the unique challenges faced by Himalayan cities.



A meeting on “National Hazardous Waste Tracking System (NHWTS)” for tracking the hazardous wastes at Baddi

Sh. Anil Joshi (IFS), Member Secretary of the State Board chaired a meeting on August 8, 2024, at BBNIA meeting hall in Baddi on the development of the National Hazardous Waste Tracking System (NHWTS) by MoEF&CC being implemented through NICS.

The Member Secretary, HPSPCB subsequently visited the Dr. Reddy Laboratories Limited and Common Effluent Treatment Plant at Baddi and carried out plantation under “एक पेड़ माँ के नाम” campaign launched by MOEF&CC under Mission life.



A meeting was organized under the Chairmanship of Sh. Anil Joshi (IFS), Member Secretary, HP State Pollution Control Board Shimla on 8th August, 2024 at BBNIA meeting hall Baddi at 10:30AM in reference to the development of “National Hazardous Waste Tracking System (NHWTS)” by MoEF&CC through NICS (National Informatics Centre Services Incorporated) for tracking the generation, transportation, storage, recycling, utilization and disposal of hazardous wastes. The portal is functional and can be assessed at <https://nhwts.nic.in> to facilitate filing of daily records, generation of e-manifest for the occupier and monitoring of the same by SPCBs/PCCs including transboundary movement of hazardous waste. NIC has completed development of module for the registration of occupiers and MIS modules (daily record and manifest) for NHWTS. To facilitate the registration process and submission of information through these modules with entities authorized under HOWM Rules, 2016. Ms. Deepti Kapil, Scientist E from CPCB has demonstrated on ground usage of NHWTS application with real users. The meeting is also attended by Sh. Rajeev Aggarwal, President BBNIA, Sh. Ashok Rana, President Small Scale Industries, Sh. Ajay Arora, Baddi Infrastructure Sh. Ashok Sharma, Shivalik Solid Waste Management, Sh. Anurag Puri, Vardhman Baddi, Sh. Dinesh Jain, Dev Resin, Sh. S.K. Thakur, Deepak Spinner and representatives of different unit about 150 persons participated the same along with the stakeholders.

Air Matters - Fuel the Air

Contributed by Er. Atul Parmar, (RO & Env. Engineer) Paonta Sahib

The author opines that the Earth's natural mechanisms for air purification have been overwhelmed by the increase in pollutants since the industrial revolution. In response, the State of Himachal Pradesh introduced a State Fuel Policy to mandate the switch to cleaner fuels, such as biomass, to reduce air pollution and comply with environmental laws.

The Earth has the inherent ability to keep itself clean. The Air for that matter has been keeping itself clean by a myriad of natural phenomenons like atmospheric winds, jet streams, land and sea breezes, precipitation amongst others. However, after the advent of the industrial revolution the abnormal load of pollutants in the air have catapulted the entire scenario. The natural cleansing capacity of the systems are on a test. In order to maintain the air quality, the State of Himachal Pradesh has notified a State Fuel Policy vide Notification of Government of Himachal Pradesh Department of Environment, Science & Technology, notification No. STE-F(1)-1/2019 dated 18.04.2022 and subsequent amendment on dated 01.04.2023. The dirty fuels are on their way out !

1. Purpose of the Policy-

Prohibition or regulation of fuel and its use needs consideration on 'Precautionary' and 'Sustainable Development' principle, requirement of industrial units to switch over to alternatives and cleaner fuels. Therefore the

Comparison b/w pet Coke & Bio Mass				
Sr. No.	Fuel	Calorific Value	Emission	Remarks
1	Pet Coke	8000 Kcal/kg	Pet-Coke is over 80% Carbon and emits 5% to 10% more Carbon Dioxide (CO ₂) than Coal on a per unit-of-energy basis when it is burned.	More Gaseous and particulate emission.
2	Bio Mass/ Wood Pellets	3800-4600 kcal/kg	Burning biomass releases about the same amount of carbon dioxide as burning fossil fuels.	Clean Fuel and very less gaseous and Particulate emission.

industries shall have to switch over to alternatives and cleaner fuels. Cleaner Fuel in form of Biomass and combustible matter available may be utilized to achieve the mandate of Air Act, 1981 and EP Act, 1986 for the prevention, control and abatement of pollution.

2. Banned fuel as per State Fuel Policy:-

Furnace Oil (FO), Pet Coke, Tyre Pyrolysis Oil and LDO.

3. Timeline to Shift to Cleaner fuel:-

Category	Timeline w.e.f. date of Notification	
Unit(s) irrespective of category falling in Critical Polluted Area (CPAs)/ Severely Polluted Areas (SPAs) based on the Comprehensive Environmental Pollution Index (CEPI) developed by CPCB.	01 Year	
Rest of Area in H.P	Red Category	02 Year
	Orange Category	03 Year
	Green Category	

4. Optional Cleaner Fuels

In replacement of Pet Coke, Furnace oil, Tyre Pyrolysis Oil and LDO as industrial fuels, the following fuels are allowed for industries/Restaurants/Dhabas/Hotels/Canteens.

- Liquefied Petroleum Gas (LPG)
- Liquefied Natural Gas (LNG)
- Piped Natural Gas (PNG) or CNG
- High Speed Diesel (HSD) (BS-VI or above)
- Bio Gas
- Bio-fuels (Bio-Ethanol etc.)
- Refuse Derived Fuel (RDF)
- Biomass
- LSHS

Status of Industries on conventional fuels -

There are numerous industries in the state of HP

which are using industrial fuel in boilers/furnaces/heaters. Out of which majority of them have already shifted/ already using clean fuel as per the State Fuel policy and the ones have to abide by the timeline specified by the State Govt in State Fuel policy dated 18.04.2022.

Comparison b/w pet Coke & Biomass Properties of Liquid Fuels

Liquid fuels like furnace oil and LSHS are predominantly used in industrial applications.

The various properties of liquid fuels are given below.

Density

This is defined as the ratio of the mass of the fuel to the volume of the fuel at a reference temperature of 15°C. Density is measured by an instrument called hydrometer. The knowledge of density is useful for quantity calculations and assessing ignition quality. The unit of density is kg/m³.

Specific gravity

This is defined as the ratio of the weight of a given volume of oil to the weight of the same volume of water at a given temperature. The density of fuel, relative to water, is called specific gravity. The specific gravity of water is defined as 1. Since specific gravity is a ratio, it has no units. The measurement of specific gravity is generally made by a hydrometer. Specific gravity is used in calculations involving weights and volumes. The specific gravity of various fuel oils are given in Table 3

Fuel Oil	L.D.O Light Diesel Oil	Furnace oil	Low Sulphur Heavy Stock
Specific Gravity	0.85-0.87	0.89-0.95	0.88-0.98



Calorific Value

The calorific value is the measurement of heat or energy produced, and is measured either as gross calorific value or net calorific value. The difference being the latent heat of condensation of the water vapour produced during the combustion process. Gross calorific value (GCV) assumes all vapour produced during the combustion process is fully condensed. Net calorific value (NCV) assumes the water leaves with the combustion products without fully being condensed. Fuels should be compared based on the net calorific value.

The calorific value of coal varies considerably depending on the ash, moisture content and the type of coal while calorific value of fuel oils are much more consistent. The typical Gross Calorific Values of some of the commonly used liquid fuels are given below:

Fuel Oil	Gross Calorific Value (kCal/kg)
Kerosene	-11,100

Diesel Oil	-10,800
L.D.O	-10,700
Furnace Oil	-10,500
LSHS	-10,600

Sulphur

The amount of sulphur in the fuel oil depends mainly on the source of the crude oil and to a lesser extent on their refining process. The normal sulfur content for the residual fuel oil (furnace oil) is in the order of 2-4 %.

Typical figures are:

Fuel oil	Percentage of Sulphur
Kerosene	0.05–0.2
Diesel Oil	0.05–0.25
L.D.O	0.5–1.8
Furnace Oil	2.0–4.0
LSHS	<0.5

Typical specification of fuel oil is summarized in the Table 4

TABLE 4 TYPICAL SPECIFICATION OF FUEL OILS

Properties	Fuel Oils		
	Furnace Oil	LS.H.S.	L.D.O.
Density (Approx. g/ccat15°C)	0.89–0.95	0.88–0.98	0.85–0.87
Flash Point(°C)	66	93	66
Pour Point(°C)	20	72	18
G.C.V. (kCal/kg)	10,500	10,600	10,700
Sediment,% Wt. Max.	0.25	0.25	0.1
Sulphur Total,% Wt. Max.	Upto4.0	Upto0.5	Upto1.8
Water Content,% Vol. Max.	1.0	1.0	0.25
Ash% Wt. Max.	0.1	0.1	0.02

Nalagarh town secures 3rd rank in the country in the ‘Swachh Vayu Survekshan 2024’ under the NCAP Program

The Ministry of Environment Forest & Climate Change, Govt. of India conferred “Swachh Vayu Sarvekshan 2024 Award” to Nalagarh town of the State for achieving third rank at national level under National Clean Air Programme (NCAP) in the Category-3 towns having less than 3 lakhs of population. The cash award of Rs. 12.5 lakhs were presented by Shri Bhajan Lal Sharma, Hon’ble Chief Minister, Rajasthan and Shri Bhupendra Yadav, Hon’ble Union Minister, Environment Forest & Climate Change, Govt. of India on Swachh Vayu Divas on 7th September 2024 held at Jaipur, Rajasthan. Sh. Anil Joshi (IFS), Member Secretary, Himachal Pradesh State Pollution Control Board has received the award on behalf of the State. Sh. Onkar Chand Sharma (IAS) Chairman, of the State Board expressed happiness and congratulated the State Board and all key stakeholders in effective execution of various components of Action Plan for the town. Sh. Anil Joshi (IFS), Member Secretary, Himachal Pradesh State Pollution Control Board said it is a matter of great pride for the State to receive third award for best performing cities in air quality improvement programme out of 131 non-attainment cities for the FY 2023-24. He further opined that the problem to tackle before hand was higher concentration of PM10 in the ambient environment, which has led to categorization of these cities/towns under



the category of Non-Attainment. Effective periodic review of implementation of Action Plan by the Air Quality Monitoring Committee (AQMC) headed by Chief Secretary to the GoHP and efforts of the State Pollution Control Board as well as city level implementation committee headed by the Deputy Commissioner have

succeeded in substantial reduction of PM10 concentration in the ambient environment. Improvement in air quality is also attributed to effective enforcement of pollution control and environmental laws by the State Board across the State.

Voluntourism: A Journey of Purpose, Culture, and Conservation

Contributed by Shri Pradeep Sangwan, Healing Himalayas Foundation

The author suggests that Voluntourism offers travelers the opportunity to combine meaningful volunteer work with exploring new destinations, creating a rewarding and sustainable travel experience that benefits both local communities and the environment.

Voluntourism is quickly becoming a popular choice for travellers seeking to make a meaningful impact while exploring new destinations. It offers the best of both worlds: the adventure of travel combined with the rewarding experience of volunteering. By dedicating their time, skills, and energy to worthy causes and local communities, voluntourists are contributing to a growing global trend that benefits both travellers and the organizations they support.

As Mahatma Gandhi once said, “The best way to find yourself is to lose yourself in the service of others.” Volunteering while traveling not only provides a sense of purpose but also offers a unique way to experience new places, immerse oneself in diverse cultures, and connect deeply with local communities. What might have been just another vacation becomes a life-changing journey, as travelers engage with different worlds and make a positive difference along the way.

While voluntourism is still relatively under the radar in India, it is steadily gaining traction. Numerous online platforms now offer opportunities to volunteer across the country, making this type of travel more affordable and accessible. In fact, voluntourism could hold the key to a more sustainable form of tourism in the long run. Travelers get to explore their dream destinations while actively contributing to the well-being of the local environment and community. Such experiences allow travellers to gain deeper

insights into the local culture and challenges faced by the people, offering an authentic perspective beyond typical tourist activities. If thoughtfully planned, voluntourism can turn a simple getaway into a purposeful, enriching experience. It gives travellers the chance to immerse themselves in the pristine beauty of their destination while supporting initiatives that protect these places for future generations—something that is becoming increasingly crucial as global environmental concerns grow.

Shri Pradeep Sangwan is an environmental activist and founder of the Healing Himalayas Foundation, an organization dedicated to cleaning up waste and promoting sustainable practices in the Himalayan region.

India is grappling with its solid waste management crisis, contributing one-fifth of all global plastic waste—the highest in the world. Uncollected solid and plastic waste and the harmful practice of open burning have become major contributors to global pollution, particularly in the remote mountain regions where infrastructure is limited. With increased tourism adding pressure to these fragile ecosystems, the problem has worsened.

In the breath-taking but vulnerable landscapes of the Himalayas, voluntourism offers a valuable solution to this issue of waste management. Travelers can enjoy the natural beauty of these regions while actively participating in environmental conservation initiatives. Local communities in popular tourist spots should consider launching such programs to give travellers the chance to not only explore the local lifestyle, culture, and traditions but also directly address the challenges they face, such as waste manage-



ment.

Working alongside local authorities, travellers can join clean-up drives, learn about local solid waste management practices, and gain hands-on experience working in Material Recovery Facilities. This type of immersive experience deepens one’s understanding of environmental conservation, making it much more than a typical holiday. It provides a platform to interact with locals and bond with fellow travellers who share similar values, all while contributing to a global cause. Participating in a voluntourism program in the Himalayas is both enriching and impactful. Travelers gain a profound understanding of sustainable practices, environmental preservation, and the rich culture and traditions of Himalayan communities. The connections formed with fellow volunteers often lead to lasting friendships and a global network of like-minded individuals who share a passion for environmental conservation.

Most importantly, their contribution makes a tangible impact on the environment and the well-being of local communities, helping preserve the beauty of the Himalayas for future generations. Through voluntourism, travellers don’t just take home memories; they leave behind a positive legacy.

By choosing voluntourism, you can transform your next trip into an unforgettable journey that makes a real difference—both for you and for the world around you.

Parwanoo Town led India in National Clean Air Program and won “Swachh Survekshan Award 2023”

Contributed by Shri Pradeep Moudgil, Assistant Environment Engineer, HPSPCB

The author highlights that through the continuous efforts of various departments, the district administration, and the MC Parwanoo under the overall coordination of the State Board, Parwanoo town secured first place in the III category (population < 3 lakh) of non-attainment cities in the country, winning a prize of ₹37.5 lakh in 2023.

Parwanoo, one of the oldest industrial towns in Himachal Pradesh, shares its boundary with Kalka, a town in the neighboring state of Haryana. The Central Pollution Control Board (CPCB) has identified Parwanoo as a severely polluted industrial cluster, with a Comprehensive Environmental

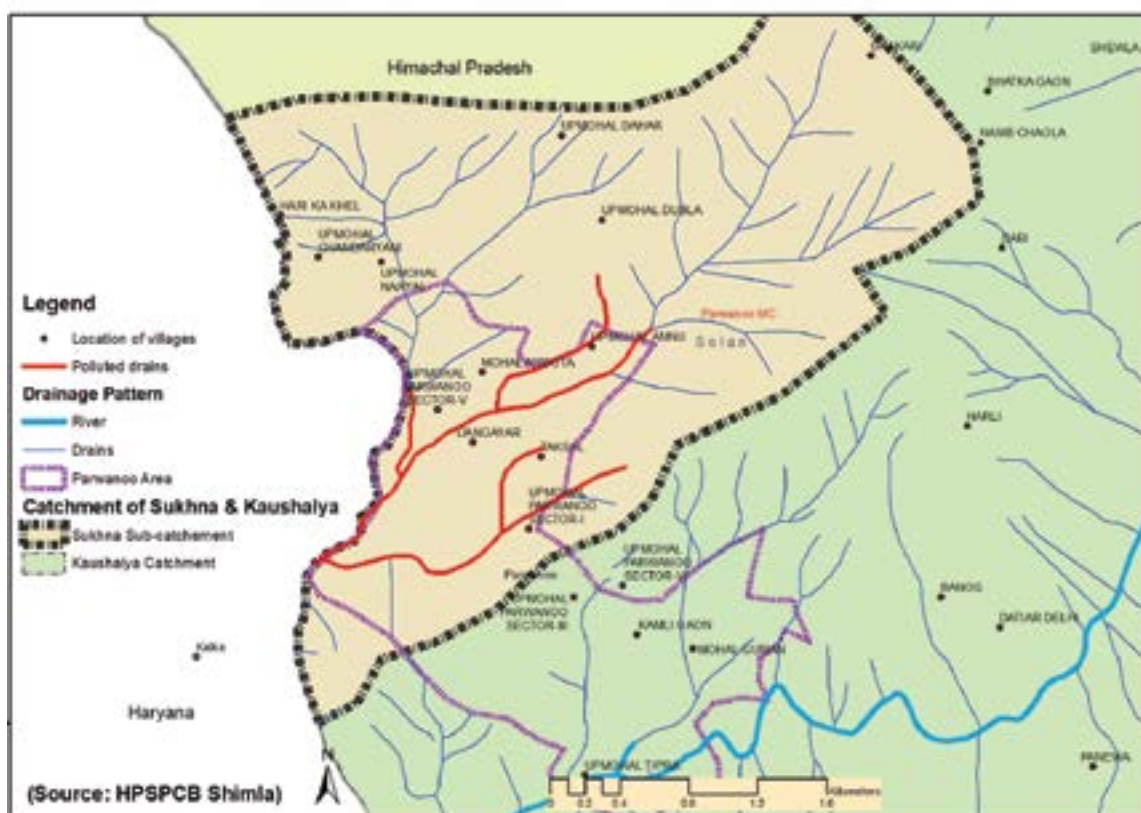
Pollution Index (CEPI) score of 63.83. The town is listed among the 131 non-attainment cities (NACs) in India, which fail to meet the National Ambient Air Quality Standards (NAAQS) w.r.t. Particulate Matters (PM₁₀). Parwanoo is one of seven such towns in Himachal Pradesh, as per an order by the National Green Tribunal (NGT) in the matter of OA No. 681/2018, dated October 8, 2018. In 2018, the Ministry of Environment, Forest, and Climate Change (MoEF&CC) launched the National Clean Air Programme (NCAP) as a comprehensive initiative to improve air quality at the city, regional, and national levels. This time-bound program focuses on the implementation of various sectoral policies, enhanced monitoring, and public participation. Its primary objective is to achieve compliance with the annual average ambient air quality standards across all locations. At the state level, the Himachal Pradesh State Pollution Control Board (HPSPCB) serves as the nodal agency for coordinating

with government departments, agencies, and the public to implement NCAP measures. The goal is to reduce particulate matter (PM₁₀ and PM_{2.5}) concentrations by 20%–30% by 2024. Air quality measurements in Parwanoo revealed that PM₁₀ levels exceeded the annual standard of 60 $\mu\text{g}/\text{m}^3$.

Nalagarh secures 3rd rank in the country in the ‘Swachh Vayu Survekshan 2024 (see at page-12)

Collaborative work among government agencies, public participation, effective fund utilization, and comprehensive reporting were crucial for achieving these improvements. To better understand the sources of air pollution, a Source Apportionment Study was conducted through IIT Kanpur by HPSPCB. The study revealed that more than 65% of the total air pollutants were PM₁₀, with road dust being the primary contributor. The other

DRAINS OF SUKHNA SUB-CATCHMENT



Cleanliness drive has constantly been conducted along the stretch of Sukhna Nallah in Parwanoo.

contributors include industry effluents, forest fire and burning of waste. Following this study, the board held multiple meetings with stakeholders to identify key areas requiring intervention. An action plan was accordingly formulated and implemented in a phased manner.

Annual average Air Quality of Parwanoo 2013 to 2018

Year	Avg. RSPM (PM10) $\mu\text{g}/\text{m}^3$
2013-14	68
2014-15	63
2015-16	63
2016-17	70
2017-18	65

As a result of these initiatives, over 96% of roads in Parwanoo were paved, air pollution control systems in industrial facilities were upgraded, and industrial units switched to cleaner fuels. Additionally, regular water sprinkling was implemented during road construction phases to suppress dust emissions, and numerous Information, Education, and Communication (IEC) activities were conducted to engage stakeholders and ensure their active participation. The Ministry of Environment, Forest and Climate Change (MoEF&CC) allocated Rs. 1.96 crore for these efforts, of which Rs. 1.33 crore was utilized by March 31, 2024. These combined measures resulted in a substantial reduction in PM10 levels, below the annual National standard of $60 \mu\text{g}/\text{m}^3$.

Annual average Air Quality of Parwanoo since 2018

Year	Avg. RSPM (PM10) $\mu\text{g}/\text{m}^3$
2018-19	61.2
2019-20	60.6
2020-21	44.2
2021-22	34.9
2022-23	45.7
2023-24	41.6

Parwanoo's achievements earned it the first position in the Category III (population < 3 lakh) non-attainment cities and the Swachh Vayu Sarvekshan 2023 Award. The award, presented by the Ministry of

Environment, Forest & Climate Change, was conferred for Parwanoo's outstanding air quality improvements under the NCAP. The town received a cash prize of Rs. 37.5 lakhs, which was presented by Shri Shivraj Singh Chouhan, the then Chief Minister of Madhya Pradesh, and Shri Bhupender Yadav, Union Minister for Environment, Forest, and Climate Change, at the Swachh Vayu Divas event on September 7,

2023, in Bhopal, Madhya Pradesh. The award was accepted by Sh. Anil Joshi (IFS), Member Secretary of HPSPCB, on behalf of the state. The Honorable Chief Minister commended the state's achievement and praised the collective efforts of local residents, industrialists, the district administration, the Forest Department, the Public Works Department, and the local Municipal Corporation in meeting the required air quality standards.



सुखना नाले से निकाला 12 टन कचरा

परवानू, 19 दिसम्बर (राजौर): सुखना को प्रदूषण नियंत्रण एवं पर्यावरण संरक्षण बोर्ड द्वारा प्रदेश के नदी-नालों को स्वच्छता के लिए अभियान को सुलभता की गई। इस अवसर पर मुख्याधिकारी वैजयंत जीन डिग्गुवा (एन.जी.टी.) को मोडिरेटिंग कमेटी के फोरम में पूर्व-निर्धारित प्रोग्राम प्राप्त निहाय प्रदूषण नियंत्रण बोर्ड के सदस्य सावित्र आर.के. चुर्वी भी मौजूद रहे। इस अवसर पर सेक्टर-5 के सुखना नाले की करीब 2.50 कि.मी. तक स्वच्छता की गई। स्वच्छता कार्य को जून केपेरो से विप्लवी की गई। इस दौरान नाले से 12 टन कचरा निकाला गया। इस मौके पर मुख्याधिकारी ने सेक्टर-5 निहाय दण्डाण्डा खंड में पर्यावरण भी किया। उन्होंने कहा कि नदी-नाले हमारी शरीर हैं निर्यात साफ रखना हमारा फर्ज है। इस मौके पर एम.जी.एम. लीला राठी, जगन साहय अन्धक व्यक्ती रास, ई.ओ. सुधीर शर्मा व अन्य मौजूद रहे।



परवानू : प्रदूषण बोर्ड द्वारा क्लान एंड स्वच्छता अभियान के तहत स्वच्छता करते लोग। (19/12/23)

H. P. Forest Department Celebrates 75th *Van Mahotsav*; Hon'ble CM inaugurates the event by planting Oak Sapling at Oak Over, Shimla

The Forest Department of Himachal Pradesh celebrates Van Mahotsav annually in July, coinciding with the arrival of the monsoon. The festival aims to raise awareness about forest conservation, environmental protection, and the preservation of nature. This year, the 75th Van Mahotsav was celebrated with great enthusiasm at Oak Over, Shimla. The Chief Minister, Thakur Sukhvinder Singh Sukhu, inaugurated the state-level event on July 30, 2024, by planting an oak sapling at his official residential premises.

To mark the occasion, a two-day plantation drive was organized across the state, with active participation from local communities. Saplings were planted in every forest division, and the campaign included the involvement of ministers, MLAs, and public representatives in 68 legislative constituencies.

In his address, Chief Minister Sh Sukhvinder Singh Sukhu highlighted the importance of maintaining ecological balance to conserve biodiversity and ensuring sustainable livelihood. He emphasized the role of afforestation in combating climate change and expanding the state's green cover. The Chief Minister also stressed the importance of educating the younger generation about environmental stewardship to ensure a sustainable future.

Rajiv Kumar, Principal Chief Conservator of Forests, HOFF, welcomed the Chief Minister and other dignitaries and provided an overview of the department's recent activities. He urged everyone to contribute to forest preservation by planting more trees and participating in the "Ek Ped Maa ke Naam" initiative, where saplings are planted in honor of one's



mother, furthering efforts to increase forest cover.

In a key policy move, the Chief Minister introduced a Standard Operating Procedure (SoP) for managing dry and salvage trees, allowing forest guards to issue permit for felling up to two trees and Divisional Forest Officers (DFOs) up to 25 trees. Additionally, powers have been delegated to DFOs and officers from State forest Development corporation, to expedite

tree removal following the first phase approval of the Forest Conservation Act-1980, particularly for the liner projects. He also launched the Beta testing of e-forest software, a digital initiative to enhance the transparency and efficiency of forest department operations. The software was developed to help citizens and government departments get permission to fell trees.

The Hon'ble Chief Minister, outlined plans to increase the plantation of fruit trees in forest areas



from 30% to 60%, aiming for tangible environmental benefits within a decade. He noted the Forest Department/Corporation's recent success in processing 15,000 salvage trees, doubling timber revenue and state royalties in just one and a half year. In strategic shift, the state government has already decided to close the construction wing of the Forest Department, about an year back, allowing it to focus on core forestry activities.

The Chief Minister praised the work of Mahila Mandals (women's groups) in Lahaul-Spiti, where they are actively involved in forest conservation and generating income through plantation activities. He reiterated the govern-

ment's commitment to systemic transformation, or 'Vyavastha Parivartan,' and the goal of making Himachal Pradesh a Green Energy State by March 31, 2026.

He also highlighted the state's progress in green energy, including a 32 MW solar power plant in Una district and two upcoming projects in next six months. The signing of an MoU with Oil India Company for green hydrogen production is another milestone toward achieving the state's green energy goals.

During the Van Mahotsav event, the Chief Minister interacted virtually with ministers and MLAs across the state. Chief Parliamentary Secretary Sunder Singh Thakur praised the

Chief Minister's vision of transforming Himachal Pradesh into a Green State. He acknowledged the Forest Department's efforts in planting saplings on barren hills, developing eco-tourism, and speeding up Forest Conservation Act clearances.. Several dignitaries, including Industries Minister Sh Harshwardhan Chauhan, Deputy Speaker of the HP Vidhan Sabha Sh Vinay Kumar, and other prominent officers of forests including Sh. Sameer Rastogi CPD JICA, Sh Pavnesh Sharma IFS MD HPSFC and CPD, IDP, Solan were present at the event. Sh K. Thirumal IFS CCF Shimla thanked the dignitaries and all the participants for their active participations in the event.

SHRI RAMESH CHAND, DRIVER RETIRES FROM SERVICE

Shri Ramesh Chand, a dedicated driver with the Himachal Pradesh State Pollution Control Board, retired on 31st March 2024 after 29 years of service. He joined the Board on August 12, 1995, and has since been an exemplary employee. In recognition of his unwavering dedication, State Board Member Secretary Mr. Anil Joshi honored him with a shawl and cap, extending best wishes for his future. Shri Ramesh Chand's commitment to excellence and loyalty has left a lasting impact on the organization. Employees gathered on 31st March 2024 to celebrate his retirement, expressed their deep gratitude for his invaluable contributions and wished him a fulfilling post-retirement life.



Tree plantation by RO Bilaspur

On August 13, 2024, the Regional Office in Bilaspur organized a plantation drive in collaboration with M/s Afcons Infrastructure Limited. Approximately 50 students from GSSS Zakatkhana participated in the event. Around 200 medicinal plants were planted along the approach roads leading to the railway tunnels of the Bhanupalli-Bilaspur-Beri Railway Project, Package 4.



Contd from page#1

occasion by organising several events from 7th to 13th September 2024, through its 12 regional offices and 6 laboratories. By educating various segments of society and engaging stakeholders, the HPSPCB has been actively contributing to both ozone preservation and climate action. It was decided to stagger the awareness activities from 7th September, marking the International Day for Clean Air for Blue Skies, to 13th September 2024. Each field office was instructed to organize awareness programs targeting specific groups, such as industry representatives, students, or consumers. They were also asked to administer a pledge to protect Ozone Layer. While field office-wise detailed report shall be illustrated in the next issue, few activities are highlighted below:

Key Activities and Events

1. Webinar at the Head Office:

On 13th September 2024, a webinar was held, Key speakers included:

- i. Dr. Arvind Bhatt, Retired Professor at Himachal Pradesh University
- ii. Ms. Sharanjeet Kaur, Scientist at the Centre for Science and Environment, New Delhi

The webinar discussed the importance of ozone layer protection, the Montreal Protocol, and the advancements made in climate action.

Regional Office and Laboratory level Awareness Programs:

RO Paonta Sahib: On 13th September 2024, an awareness program at Kala Amb focused on industrial representatives, discussing air quality and ozone layer protection with over 50 participants from local industries.

RO & RL Dharamshala: A session was held at Achiever's Hub School, Dharamshala, where students were educated about ozone depletion and the importance of clean air.

RO Mandi: At Govt. Senior Secondary School Kanaid, students participated in a discussion on ozone protection, concluding with a pledge ceremony.

RO Chamba: Govt. Senior Secondary School, Chaned hosted an awareness event attended by 60-70 students, focusing on the Montreal Protocol and ozone preservation.

Central Laboratory Parwanoo: An awareness program at Lotus School, Parwanoo educated students on ozone layer depletion and the need to spread awareness.

RO Kullu: On 10th September 2024, G.S.S. Girls School, Sultanpur, organized an event for 80



students with presentations on the Montreal Protocol and ozone protection.

RL Dharamshala: On 9th September 2024, a presentation was delivered at RPGMC Hospital Tanda, Kangra, covering air pollution, ozone protection, and waste management.

RO Bilaspur: On 16th September 2024, an event in collaboration with the District Legal Service Authority and ACC Ltd. at GSSS Barmana fea-

tured competitions such as painting and slogan writing. The event concluded with a keynote on ozone protection and a tree-planting ceremony.

These activities aimed to engage local communities, students, and industries in promoting the protection of the ozone layer, aligning with the global theme of advancing climate action.

RO DHARAMSHALA CONDUCTS AWARENESS ACTIVITIES

An awareness-cum-training program on Carbon Neutrality was conducted at the Panchayati Raj Institute, Baijnath, on August 2, 2024. The event was attended by officials from the HPSPCB, Regional Office Dharamshala, in the presence of the Principal of the Panchayati Raj Institute, Baijnath, and guest lecturer Shri Harjeet R.S. Bhullar. Approximately 50 participants from various panchayats across Chamba, Hamirpur, and Kangra districts took part, including Panchayat Secretaries, Pradhans, Up-Pradhans, and ward members. The HPSPCB RO Dharamshala delivered a presentation on key topics, including an orientation on scientific temperament and an introduction to carbon neutrality, as well as the concept of carbon footprints and their impact on the environment and climate change. Participants were educated on the effects of carbon emissions, air, water, and noise pollution, and solid waste mismanagement, with a focus on their consequences for climate change. The session also covered e-waste



management, Extended Producer Responsibility (EPR), and the dangers of illegal muck dumping. Attendees were encouraged to promote afforestation activities to foster a clean and green environment.



IEC activity in Lahul & Spiti

Attendees were educated on the State Board's consent mechanism and the process of applying online through the OCMMS portal



The Regional Office, Kullu, conducted an awareness program at Chandertal Lake on August 4, 2024, with the participation of representatives from the Save Chandertal Society and local camping site owners. During the program, attendees were educated on the State Board's consent mechanism and the process of applying online through the OCMMS



portal. They were also briefed on various environmental laws, as well as solid and liquid waste management practices. Additionally, inspections were carried out at shops in Chhatru and Bathal, where shopkeepers were informed about the ban on single-use plastic items and non-biodegradable, film-coated plastic plates.



Regional Lab Una conducts a training session on BWM Rules

A training session on Biomedical Waste Management Rules, 2016 was conducted through a PowerPoint presentation by the Regional Laboratory, Una, at the District Ayurvedic Office, Una. The session was attended by all Medical Officers from Una District under the jurisdiction of DAO, Una. The training focused on issues related to the effective management of biomedical waste in Ayurvedic healthcare facilities, with discussions held to address concerns and resolve queries. Participant's queries were also attended to in the last of the training session.



गया। सफ़ेद कचरा सिंग के बोर्नो जहरीले कोषर लोचों को फाड़ कर कचरा कर निरा ले परिवार के रहत की संत ली ।

बायोमेडिकल अपशिष्ट प्रबंधन का दिया प्रशिक्षण

अनंत खान, पारमपुर। क्षेत्रीय प्रयोगशाला, प्रमुख निदेशक बोर्ड, धर्मशला जिला निदेशक अस्पताल, पारमपुर में बायोमेडिकल अपशिष्ट प्रबंधन पर एक प्रशिक्षण कार्यक्रम आयोजित किया गया। डॉक्टरों, स्टाफ नर्स, लैबोरीटोरियों और अन्य अस्पताल कार्गोरियों को क्लिष्ट वैज्ञानिक अधिकारी पूजा चौधरी द्वारा एक फलर फाईट प्रेजेंटेशन दिया गया और बायोमेडिकल अपशिष्ट प्रबंधन नियमों की विविध विशेषताओं और सिद्ध पर बायोमेडिकल कचरे का प्रबंधन कैसे किया जाए, इसके बारे में बताया गया। उपस्थित और सेंटिमेंट हलफेयरकेटवर्ड की उचित संभार के साथ सार्वजनिक स्थल अपशिष्ट का क्रीटानुसोपन कैसे किया जाए, इसकी भी जानकारी दी गई। उक्त प्रशिक्षण में लगभग 70 प्रतिभागी उपस्थित थे। प्रतिभागीओं की संख्याओं का समझाना संजीव खन्, क्लिष्ट वैज्ञानिक अधिकारी, पीसीबी और पूजा चौधरी ने किया और सभी को कर्मचारी से कचरे के निर उचित बायोमेडिकल प्रबंधन सुनिश्चित करने के निर अवगत कराया।



Regional Laboratory Dharamshala conducts training for doctors

The Regional Laboratory in Dharamshala conducted a training session on Biomedical Waste Management at the District Ayush Office (DAO) in Dharamshala. The training was attended by the Sub-Divisional Ayurvedic Medical Officers (SDAMO) and other Medical Officers from the Ayush



Department in District Kangra. Approximately 25 doctors participated in the program.

CENTRAL PARWANOO LAB CONDUCTS A WORKSHOP

A workshop-cum-interaction meet on Bio-Medical Waste Management Rules, 2016, was organized by the Central Laboratory Parwanoo of the State Board on August 7, 2024, in the conference hall of BMO Dharampur. The event saw participation from around 38 healthcare professionals, including Medical Officers, CHOs, MHS/FHS, MHW/FHW, and Staff Nurses. During the session, participants had the opportunity to clarify their doubts regarding the proper management of bio-medical waste, ensuring a better understanding of compliance with the regulations. The workshop aimed to enhance the knowledge and practices of healthcare workers in managing bio-medical waste effectively.



RO Hamirpur conducts awareness drive

The HPSPCB Regional Office Hamirpur, conducted an awareness drive, under the “Ozone Day-Clean Air Blue Sky” campaign. The State Board officials have taken action in Sujanpur (Hamirpur) along with police department. The team inspected the market, appealed not to burn garbage and plastic in the open area, as it pollutes the air quality and harm the Ozone Layer. Further, 08 number of violation were found during the campaign, using single-use plastic. During the said drive, the board officials issued 08 challans and imposed a fine of Rs. 26,500/-. Earlier, Regional Office Hamirpur has inspected 155 shops during the last five months and has issued challans worth Rs. 22,000 and so far a total amount of challan issued for the Rupee 48,500/- in this financial year.



Central Lab conducts activity

To commemorate the International Day for the Preservation of the Ozone Layer, an awareness program was held on September 16, 2024, by Central Laboratory Parwanoo at Sharda Public School, Sector-5, Parwanoo. The program aimed to educate school children about ozone layer depletion and encouraged them to spread awareness within their communities about the causes, preventive measures, and the do's and don'ts to help protect the ozone layer



Joint Raid with District Administration to Crack Down on Plastic Waste Violations



use of plastic is strictly prohibited and warned that future violations will result in legal action.



In a concerted effort to combat environmental pollution, Regional Office Dharamshala conducted a joint raid in the Baijnath sub-division under the leadership of Additional Deputy Commissioner (ADC) Kangra, Sh. Saurabh Jassal, IAS. The operation also included the participation of the Sub-Divisional Magistrate (SDM) Baijnath, Deputy Superintendent of Police (DSP) Baijnath, and the Regional Officer (RO) of the Pollution Control Board.

During the raid, four inspections were conducted, leading to the issuance of two challans under the Himachal Pradesh Non-Biodegradable Garbage (Control) Act, 1995. Offenders were fined a total of 50,000.

The raid was part of a broader initiative to address the harmful effects of plastic waste on the environment. Authorities emphasized that the

From Pioneer to Predicament: Himachal Pradesh's ongoing battle with Plastic Waste

Contributed by: *Er. Pradeep Moudgil (RO & AEE) & Er. Rahul Sharma (JEE) Hamirpur*

The author examines the challenges in plastic waste management in Himachal Pradesh, tracing the evolution from the enactment of the HP Non-Biodegradable Garbage Control Act in 1995 to the present difficulties. The study highlights the state's efforts in plastic waste management, which were notably recognized by the Hon'ble Prime Minister of India in 2011, and discusses the difficulties in current practices.

The beautiful hilly state, with a powerhouse of Crystal Clear Water resources and fresh Air, has to come forward with a bold step for banning polythene bags in 1995. Due to the load of tourist footfall and rapid urbanization, the visionaries of the state felt the stench in the fresh air and pollution in the Water with the estimated impact of plastic pollution in a very advanced stage.

The Government of Himachal Pradesh (GoHP) had introduced the HP non-Biodegradable Garbage Control Act, 1995, to impose the ban of polythene bags and the Act further gets its multiple amendments with passage of time, since its induction.

As it was understood in a very early stage that there are financial and manpower complications for the collection, and segregation of plastic waste. The other waste (i.e. mainly Bio-degradable waste) mixed with plastic or wrapped in the polythene, become complex and hamper the natural decomposition process. This results in the generation of waste dumps, and a scar in the scenic panoramic view of the state. Such waste hotspots causing foul smell, further the contamination of water due to leachate generation and pol-

luting the Environment. At present the GoHP has banned 13 types of plastic products.

Table No. 01 : Banned items in Himachal Pradesh

1	Plastic carry bags (irrespective of their sizes and thickness)
2	Plates, cups, glasses (Plastic & Thermocol both)
3	Cutlery such as forks, spoons, bowls, katoris, knives, straws, trays and any other cutlery items (Plastic & Thermocol both).
4	Ear buds with plastic sticks
5	Plastic sticks for balloons
6	Plastic flags
7	Candy sticks
8	Ice-cream sticks
9	Polythene (Thermocol) for decoration
10	Wrapping or packing films around sweet boxes, invitation cards and cigarette packets
11	Plastic or PVC banners less than 100 micron
12	Stirrers
13	Non-woven plastic carry bags less than 80 Gram per Square Meter(GSM)

The Department of Environment, Science & Technology (DEST) of GoHP is the key department for the framing and updating the policy. The DEST further established inter Govt. state level coordination and authorized around 13 departments officers/officials vide notification No. STE-F-(4)-1/2020 Dated: Shimla-2 20th July, 2022 to monitor and impose the penalty on the banned items.

Table no. 02 : Details of fine/penalty for the Violation

Sr. No	Particulars	Amount (in Rs.)
A	Quantity of prohibited plastic items i.e. One time use Plastic Cutlery	

1	Upto 100 gms	500
2	101-500 gms	1500
3	501 gms-1.00 kg.	3000
4	Above 1 kg. to 5 kgs	10,000
5	Above 5 kgs. to 10 kgs.	20,000
6	More than 10 kgs	25,000

The H.P. State Pollution Control Board (HPSPCB), plays important role for imparting awareness among the Public, Commercial Establishment and Industrial Units, to encourage for adopting the plastic free practices as per law along with change their routine habits for the better environment. The HPSPCB has aggressively launched the plastic challan drives across the state and extended its reach from city to village areas.

Even in this running calendar year the HP-SPCB has conducted 1679 number of inspections, imposed penalties on identified 159 number of violators for the amount of rupee 4,16,500/- only.

The State had launched first phase of awareness campaign under "Plastic Hatao-Paryavaran Bachao" launched on 21st December, 2009 and had been a grand success by collecting 140 tons of plastic waste. Further, on the eve of Earth day observance i.e. 22nd April, 2010, the state had launched 2nd phase of "Plastic Hatao-Paryavaran Bachao" and introduced the charges for the amount of Rs 3/- per Kg and an additional rupee proposed to be given as handling charges for the plastic waste.

Later on 2nd October, 2019 the Government of Himachal Pradesh has decided to buy Non-recyclable and Single Use Plastic Waste @ Rs. 75/- per kg. through registered rag pickers and individual households in State of HP. In a year 2008, the State Government decided to use recycled plastic in the bitumen mixture for the construction of roads. The HPSPCB in 2009-10 constructed a stretch of road of

approximately 800 meters by using approx. 530 Kg of shredded plastic waste between Tutu-Jubbar Hatti airport Shimla in collaboration with Public Works Department and Municipal Corporation.

As per latest report, the State under its so-called “buyback policy” for single-use plastic waste, has incorporated about 1,300 tons of plastic waste into road construction and cement production and is becoming a pioneer of sustainable infrastructure by building 200 kilometers of roads using plastic waste till May, 2024.

The State’s polythene ban has won the coveted Prime Minister’s award for the Excellence in Public Administration, for the year 2010. The GoHP has signed the MoU with 04 Cement plants for an alternate solution of the plastic waste

problem by co-processing of plastic waste for the designated ULBs to the specific cement plant, for the purposes of smooth disposal and appropriate movement of plastic waste load (i.e. as RDF- refused derived fuel), in the year 2023.

As per the State Level Strategy for Solid Waste Management Strategy for Urban Local Bodies-2019 of Himachal Pradesh, (SSWMM-HP-2019), the total waste generation in the State is around 370 TPD, which comprised total biodegradable/ wet waste around 190 TPD, total non-biodegradable / dry waste around 150TPD and around 30 TPD are inert waste.

If we talk about the issues on theoretical grounds, with above figures, w.r.t. Total waste generation in the ULBs & MoU with cement plants, the plastic waste problem has no place to arise in the State. As the installed capacity of cement plants, for the utilization of RDF is quite enough to solve the Municipal waste issues of the State. Now, despite having waste management



Awareness activities being carried out

systems with installed capacities exceeding waste generation, along with policies and regulations in place for 29 years—even before hotspots turned into waste dump sites—the questions remain: Where is the gap? Why have we failed to meet our targets? Why do we find ourselves in the Hon’ble High Court, facing embarrassment and penalties from the Hon’ble NGT? And what more needs to be addressed? Undoubtedly, the State and its machinery are working hard and struggling with the problem of management of Plastic and other solid waste, since the inception of HPNBSG Act, 1995.

The problem exists, and so does the solution; what is needed now is a thorough study and analysis of our waste management practices and the reasons for our failures. There is a need to enforce the action plan in a strict, time-bound manner by appointing a nodal officer and team with

targeted responsibilities, focusing on sustained efforts rather than chasing quick fixes or one-time solutions. In conclusion, effective waste management doesn’t demand cutting-edge technology or complex innovations. Rather, it hinges on a keen understanding of local environmental conditions and the implementation of thoughtful policies tailored to specific community needs. By focusing on local resources, engaging with community stakeholders, and adhering to sustainable practices, we can develop practical and impactful solutions to manage waste efficiently. The key lies in leveraging our existing knowledge and infrastructure to foster a cleaner, healthier environment. Embracing these approaches not only addresses the immediate challenges of waste management but also sets a foundation for long-term environmental stewardship and resilience.

Reference:

1.(https://ud.hp.gov.in/sites/default/files/documents/H.P.%20SWM_Strategy_Final_20190601.pdf)



Manimahesh Yatra: Balancing Pilgrimage and Environmental Stewardship

Contributed by: *Er. Rahul Sharma (RO & AEE) Chamba*

Manimahesh Lake, also known as Dal Lake, is a high-altitude lake situated at an elevation of 4,080 meters (13,390 feet) near the Manimahesh Kailash Peak in the Pir Panjal Range of the Himalayas, located in the Bharmour subdivision of Chamba district, Himachal Pradesh, India. The pilgrimage to Shri Manimahesh, particularly during the Manimahesh Yatra from August to September, draws thousands of pilgrims who traverse stunning landscapes, lush valleys, and challenging mountain paths. Despite its deep spiritual significance, the increasing number of visitors has raised pressing environmental concerns, particularly related to waste management and ecosystem degradation.

Solid Waste Management: An Urgent Ecological Concern

The large influx of pilgrims during the Manimahesh Yatra puts immense pressure on the local environment. The Himachal Pradesh State Pollution Control Board (HPSPCB) Regional Office in Chamba noted a significant rise in solid waste generation due to increased commercial activities and the sheer number of visitors. Without proper waste management practices in place, this threatens the fragile alpine ecosystem and can lead to water pollution, soil contamination, and biodiversity loss. The area's high altitude and rugged terrain further complicate waste collection, segregation, and disposal, making sustainable management more challenging.

Ecological Awareness Campaigns

During the Yatra, various ecological awareness initiatives were organized to educate the public on the importance of preserving the fragile environment. Focus was placed on minimizing single-use plastics, which contribute heavily to non-biodegradable waste. Informational pamphlets were distributed to shopkeepers, and posters were displayed to raise awareness of the environmental impact of plastic pollution. In addition, enforcement actions were taken under the Non-Biodegradable Garbage (Control) Act of 1995, with penalties imposed on vendors found using single-use plastics. These confiscation efforts were part of a broader strategy to reduce plastic waste and protect the sacred environment. Sustainable Waste Management Initiatives

To address the growing waste problem, the HPSPCB issued directives to the Manimahesh Trust Committee to implement sustainable waste management strategies. Key initiatives include:

1. Launching comprehensive awareness campaigns about responsible waste disposal and ecosystem conservation.
2. Organizing cleanliness drives in environmentally sensitive areas along the trek.
3. Enforcing stringent penalties for unauthorized waste dumping to deter environmentally harmful practices.
4. Establishing a temporary Material Recovery Facility (MRF) during the Yatra to enable efficient waste segregation, recycling, and the recovery of reusable materials.

Sanitation Infrastructure: A Critical Environmental and Public Health Issue

Alongside solid waste challenges, inadequate sanitation facilities pose severe risks to both public health and environmental integrity. The lack of proper toilet infrastructure along the pilgrimage route has led to unhygienic practices, which contaminate local water sources and harm the delicate ecosystem. The improper disposal of human waste is a major contributor to waterborne diseases and threatens the biodiversity of the area. The region's remote and difficult terrain further exacerbates the problem by limiting the ability to maintain and service sanitation facilities. In response, the



HPSPCB has taken proactive measures to monitor water quality. Water samples from the sacred Manimahesh Lake and the Goya Nallah stream were collected and analyzed to assess the environmental impact and guide future conservation efforts.

A Collective Call for Environmental Protection

The Himachal Pradesh State Pollution Control Board urges all stakeholders—including pilgrims, tourists, local communities, and administrators—to play a proactive role in safeguarding the environment. It is our collective responsibility to preserve the ecological integrity of sacred places like Manimahesh Lake. By promoting sustainable tourism practices, reducing waste, and respecting the local environment, we can ensure these pristine landscapes remain unspoiled for future generations.



Environment Calendar 2024 - 2025 — Next Six Months of Action for a Sustainable Future!

- Following an environmental calendar helps us stay committed to sustainable practices year-round. It organizes collective action, raises awareness, and ensures consistent efforts toward environmental conservation. By aligning with scheduled activities, we can make a more significant impact, fostering a culture of responsibility and driving positive change for our planet's future.
- Join us on a journey of environmental impact!
- Each month, we're committed to making a real difference through initiatives like tree-planting drives, cleanliness drives, wildlife conservation projects, and sustainability workshops.
- Be a part of our collective effort to create a greener, healthier planet!

Date	Environment Day
16 September 2024	International Day for the Preservation of the Ozone Layer
21 September 2024	Zero Emissions Day
22 September 2024	Car Free Day
Last Sunday of September	World Rivers Day
02 October 2024	Mahatma Gandhi Jayanti
14 October 2024	International E-Waste Day
01 November 2024	World Ecology Day
26 November 2024	Establishment of HPSPCB
02 December 2024	National Pollution Control Day
02 February 2025	World Wetlands Day
03 March 2025	World Wildlife Day
14 March 2025	International Day of Action for Rivers

A workshop conducted by Regional Laboratory Dharamshala

News by: Dr. Sanjeev Sharma, Lab In-charge & SSO, Dharamshala

A training session on Biomedical Waste Management was conducted on 3rd September 2024 by Regional Laboratory Dharamshala at Cheb, Kangra, for Medical Officers from the Health Department. The session was led by the Senior Scientific Officer in collaboration with the Health Department. The training focused on raising awareness about biomedical waste and the provisions under the Biomedical Waste Management Rules, 2016.

Special attention was given to the proper mutilation of plastic waste categorized under the red category and the implementation of barcoding for waste bags generated by hospitals to track their disposal. This was particularly emphasized in light of recent news about improper disposal of biomedical waste for resale by a hospital in Kolkata.

The participants were strongly urged to ensure proper management of both biomedical and liquid waste. The concerns raised by the participants were addressed during the session. A total of 20 Medical Officers from Kangra, Chamba, Hamirpur, and Una districts attended the training.



MEMBER SECRETARY INSPECTS M/S PA PINION AT DHARAMPUR SOLAN

An inspection of M/s P.A. Pinion, located in Dharampur, District Solan, was conducted on 24.07.2024 by Sh. Anil Joshi, Member Secretary of Himachal Pradesh State Pollution Control Board (HPPSPCB), along with Sh. Sat Pal Dhiman, Additional Secretary (Environment, Science & Technology, Climate Change), Government of Himachal Pradesh. (Photographs are attached). The unit is engaged in the manufacturing of analog watch components, healthcare devices and tools, including surgical tools, assembly of digital and analog watches, and precision-cut tools/components for the defense sector. Dur-

ing the inspection, the Worthy Member Secretary issued directions for further improvements in environmental management and emphasized strict adherence to environmental norms and the conditions specified in their Consent to Operate.



Training imparted to the newly appointed Junior Scientific Officers

The State Board organized a two-day induction training program for all newly appointed Junior Scientific Officers (JSOs) on the 4th and 5th of September 2024 at the State Training Institute of the Health and Family Welfare Department, Parimahal, Panthaghathi, Shimla. The program was designed to orient the new officers on the full spectrum of activities carried out by the State Board. The following newly recruited junior officers participated in the training:

1. Ms. Shabnam (M.Sc Environmental Science) – HPPCB R/L Sundernagar
2. Sh. Anil Sharma (M.Sc Microbiology) – HPPCB CL Parwanoo
3. Sh. Tapan Thakur (M.Sc Chemistry) – HPPCB CL Parwanoo
4. Sh. Aditya Sharma (M.Sc Chemistry) – HPPCB Head Office Shimla
5. Sh. Vivek Thakur (M.Sc Microbiology) – HPPCB RL Una
6. Ms. Pooja Sharma (M.Sc Chemistry) – HPPCB R/L Sundernagar
7. Ms. Nidhi Chauhan (M.Sc Chemistry) – HPPCB CL Parwanoo
8. Sh. Yashpal (M.Sc Chemistry) – HPPCB R/L Paonta Sahib
9. Ms. Mamta Sharma (M.Sc Environmental Science) – HPPCB R/L Una
10. Sh. Arun Kalia (Ph.D. Environmental Sciences, M.Sc Chemistry) – HPPCB R/L

Paonta Sahib

11. Ms. Soniya (M.Sc Environmental Science) – HPPCB RO Kullu

The Chief Scientific Officer (HQ) began the session by welcoming the Member Secretary Sh. Anil Joshi (IFS) and the newly recruited JSOs. Sh. Anil Joshi (IFS), Member Secretary of the State Board gave an overview of the State Board's functions, mandate and encouraged the officers to work with dedication and integrity. He also extended his best wishes for their future success. Other officers who imparted training on their respective areas of expertise included Er. Chandan Singh,

Environmental Engineer; Sh. Devender Pal, JC (F&A); Sh. Vinod Kumar Gautam, AC (F&A); Dr. Gopal Gautam, System Manager; Sh. Sandeep Vashisth, Law Officer; Dr. Praveen Sharma,

Scientific Officer; and Dr. Dinesh Kumar, Scientific Officer. The session concluded with a field visit to IGMCM, providing Junior Scientific Officers with practical exposure to the Biomedical Waste Management Rules, 2016.



NGO Story - July 31 Marks Historic Day for Kasauli as Waste Warriors Launches Waste Collection System to Combat Tourism-Driven Trash

Contributed by: Ms. Nidhi Sharma, Waste Warriors, Dharamshala

- Kasauli, some of our favourite holiday town, has been long facing the multi pronged impact of unprecedented increase in tourism; one of the unintended consequences being the trash it comes with.
- But there is a strong multi-stakeholder demand for solution— by the Cantonment Board, Sub Divisional Magistrate, Block Development Office, Hotel Association, local pradhans and the community; only technical expertise and convergence were missing.
- With support from Godrej Consumer Pvt. Ltd. and all the stakeholders, Waste Warriors is finally proud to have enabled a waste collection system in Garkhal Panchayat of Kasauli through a local entrepreneur. And one of the prettiest waste banks was already waiting to store

segregated dry waste for its scientific processing.

- On the same day as the collection vehicle made its first rounds, collecting 324 kg of dry waste, 55% of households paid the user fees too! While this will help support the operational costs of the system, it also signifies the community's trust in the sustainability of a rural model of local entrepreneurship.
- Little wins like these, in setting models, are helping us push the needle. In another news, the Himachal Pradesh High Court cited our work in rural solid waste management models by referring to our work in Bir panchayat for the rest of the state.
- The Dharamshala block panchayat, local entrepreneurs, and Waste Warriors Society/HDFC Bank Parivartan



have signed a three-party MOU for dry waste collection in 2024-2025, with charges set per unit by the local entrepreneur.

- In April 2024, door-to-door dry waste collection was started in Gram Panchayat Chaugan in Bir. This initiative was made possible with the support from the local government.

Environmental Impact



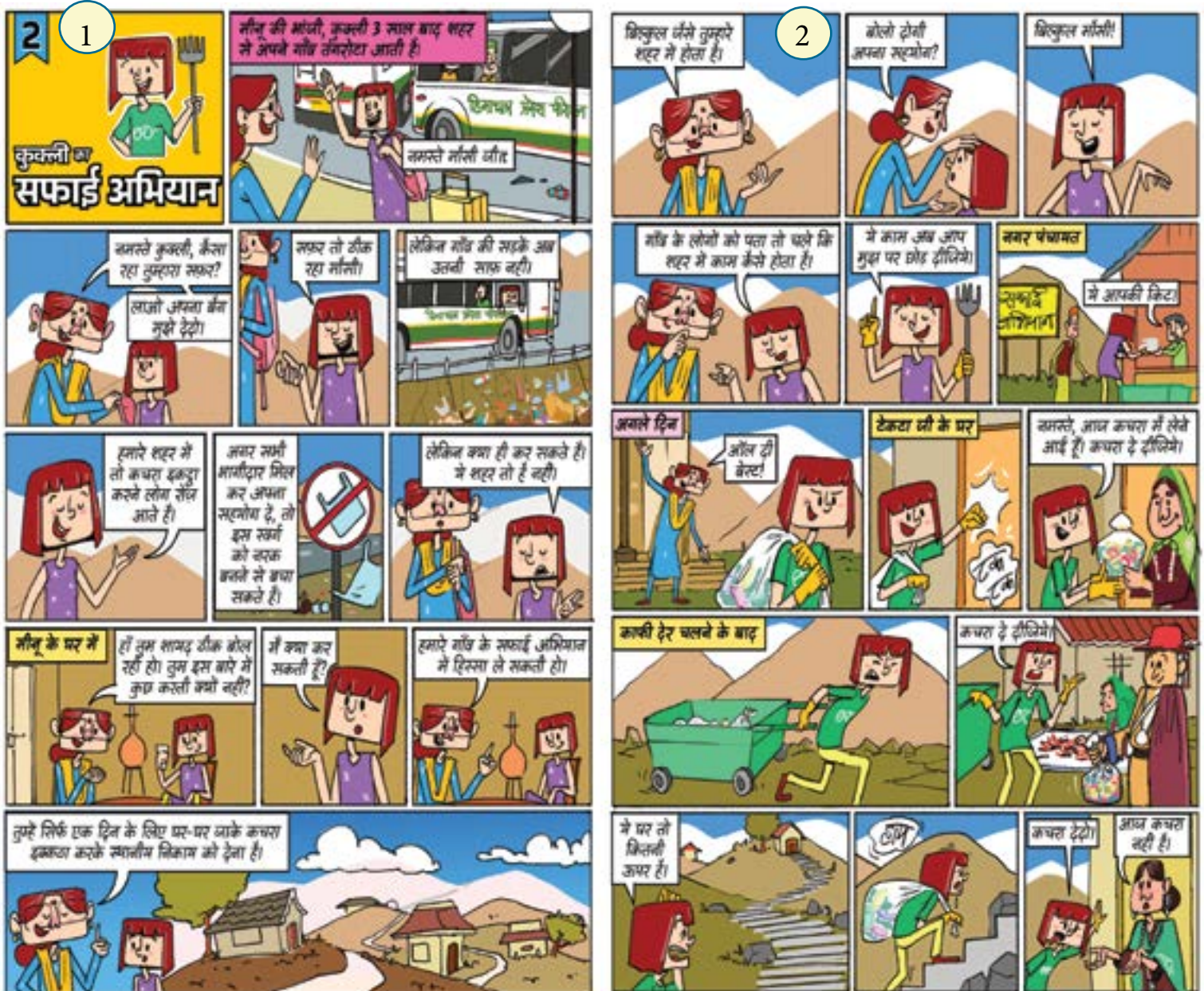
“Ward Member Meenu Ka Safai Abhiyan” A Booklet by HPSPCB - Chapter -2

Himachal Pradesh State Pollution Control Board has been conducting awareness activities to ensure the effective implementation and compliance of environmental regulations as mandated by various environmental legislations and court orders. Traditionally, the State Board has relied on print and radio media for these awareness activities. However, to specifically target school and college students, the State Board has published a comic booklet titled “Ward Member Meenu Ka Safai Abhiyan,” which were distributed to over 18000 schools in Himachal Pradesh, including private schools

in addition to government offices and ULBs. The primary objective of this comic booklet is to educate children and students about the critical environmental issue of waste management, which poses a serious concern for environmental managers and regulators. The comic booklet features nine imaginative and cartoon-based stories. It begins with waste segregation and highlights various initiatives of the State Government and the State Board. The booklet also encourages readers to report any violations in waste management. It is crucial to instill good citizenship behavior in children,

teaching them to keep their towns and villages clean and manage waste scientifically. The first story of the comic book is depicted below for your reference.

Disclaimer: The opinions expressed in various articles contributed by the authors are their own and do not necessarily reflect the views of the State Board. All disputes shall be within the jurisdiction of Shimla and the decision of Hon'ble Chairman/ Member Secretary shall be binding and final.





Appeal

GOVT. OF INDIA IMPOSED BAN ON MANUFACTURE, IMPORT, STOCKING, DISTRIBUTION, SALE AND USE OF SINGLE USE PLASTICS (SUP) LISTED AS BELOW

Effective from 1st July, 2022

Car mats with studs	Plastic straws	Plastic cups	Plastic carry bags	Plastic carry covers	Polystyrene Thermal insulation	Lobby Pass	Galley Pass
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PLASTIC ITEMS BANNED IN HP
Use and sale of Plastic Carry Bags irrespective of thickness and size

Galley glass	Galley table	Galley seats	Drinking Glass	Galley bags	Whisking jacking tea & hardboard boxes	Insulation cards	Cigarette packets	Plastics in PIC (except for the ECR/Inner)
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In case of violations

Action as deemed fit under Environmental Protection Act, 1986 including seizure of goods, levying of environmental compensation, closure of operations of industrial/commercial establishments, shall be taken against the violators of the said Notification.



Message from Member Secretary

I extend my sincere appreciation to all the contributors of this quarter's magazine. Your unwavering dedication and precision in documenting the significant milestones and impactful events of the past quarter have been outstanding. This publication not only highlights our collective accomplishments but also underscores our steadfast commitment to promoting environmental sustainability and conserving vital ecosystems. The in-depth analyses, innovations, and initiatives presented exemplify the spirit of collaboration and technical excellence that propels us forward. I deeply appreciate your ongoing efforts and look forward to the continued advancements we will accomplish together in the months ahead.

Warm regards,

Kachi Ghani Mustard Oil



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H. P. STATE POLLUTION CONTROL BOARD

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