Webinar Report

National Pollution Prevention Day

December 02, 2020

Organised by:

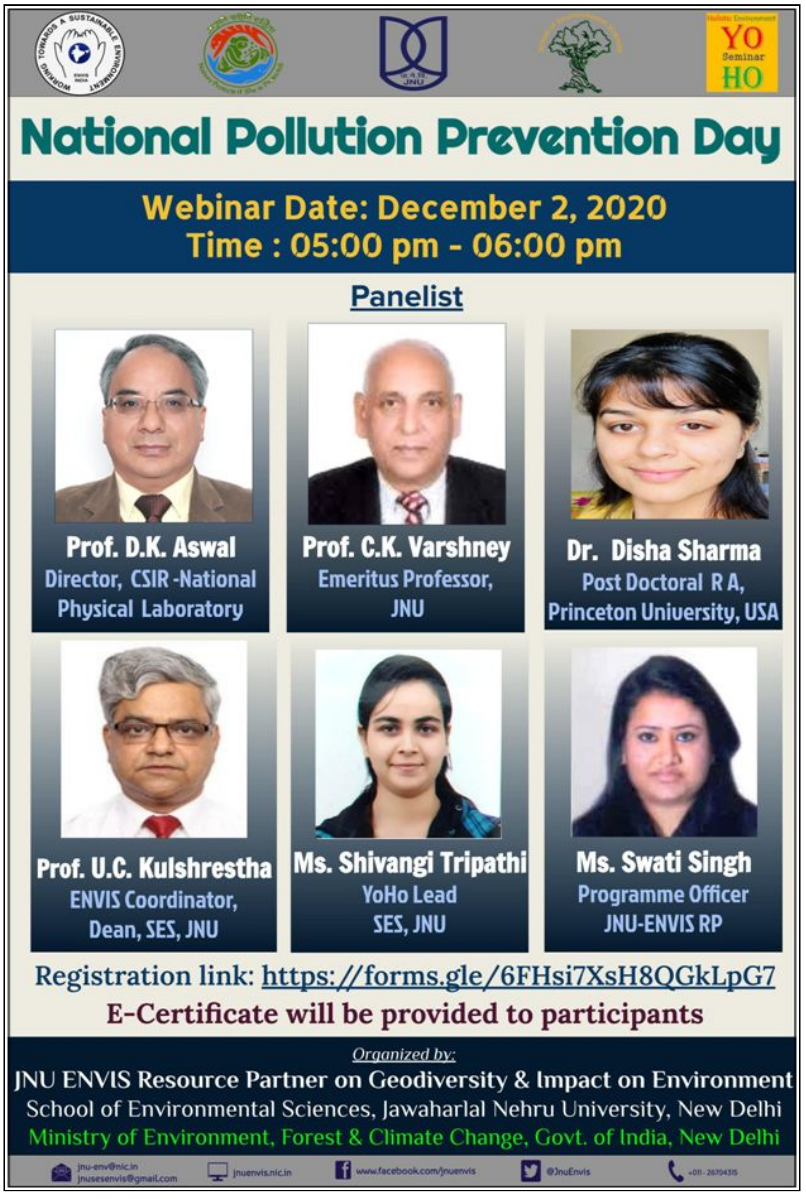
JNU ENVIS Resource Partner on Geodiversity & Impact on Environment
School of Environmental Sciences, Jawaharlal Nehru University
New Delhi - 110 067

National Pollution Prevention Day

The School of Environmental Sciences celebrated National Pollution Prevention Day on December 02, 2020. On this occasion, a webinar was organized by JNU ENVIS Resource Partner in collaboration with the Young Holistic (YoHo) group, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

The panel included very eminent national and International researchers such as **Prof. D.K. Aswal** (Director, CSIR- National Physical Laboratory), **Prof. C.K. Varshney** (Emeritus Professor, SES, JNU), **Dr. Disha Sharma** (Post-Doctoral Research Associate, Princeton University, USA) and **Prof. U.C. Kulshrestha** (Dean SES & JNU ENVIS Coordinator). The Young Holistic leader **Ms. Shivangi Tripathi** represented the student YoHo group, while **Ms. Swati Singh,** Programme Officer, ENVIS, SES executed the programme.

Professor Umesh Kulshrestha, moderated the panel discussion. It was attended by more than 140 participants, through Google-Meet and Facebook Live platforms. The participants included university students, researchers, faculty members and general public from different parts of the country.



National Pollution Prevention Day

Date :December 2, 2020 | Timing : 05:00 pm – 06:00 pm

Speakers	Time
Welcome Address by **Prof. U.C. Kulshrestha,** ENVIS Coordinator/Dean, SES, JNU	5:00 PM - 5:05 PM
Prof. D K Aswal Director, CSIR - National Physical Laboratory, New Delhi	5:05 PM - 5:20 PM
Prof. C K Varshney Emeritus Professor, JNU	5:20 PM - 5:40 PM
Dr. Disha Sharma Post Doctoral Research Associate, Princeton University, USA	5:40 PM - 5:50 PM
Shivangi Tripathi YoHo Lead, SES, JNU	5:50 PM - 5:55 PM
Vote of thanks by **Ms. Swati Singh** Programme Officer, JNU ENVIS RP	5:55 PM - 6:00 PM

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School of Environmental Sciences, Jawaharlal Nehru University, New Delhi
Ministry of Environment, Forest & Climate Change, Govt. of India, New Delhi

Fig.1: Poster and Schedule of the Webinar widely circulated on the social media platform.

Prof. U.C. Kulshrestha, **Dean SES & JNU ENVIS Coordinator -** Welcomed all the speakers & participants. He talked about the importance of this day. He said initially society was not concerned about use of new products and its associated pollution. But now we have to work out how to remove this. Historically, people used to take **"Preventive Measures"**. Traditional lifestyle was oriented towards preventions before mishappenings/accidents. We have manuals for **'Pollution Prevention and Control'**, but in practice, prevention is less seen on ground. Also, there are vested interests which hinder the prevention aspect due to associated profit motives. He then invited the first speaker Prof. D.K. Aswal to deliver his talk.

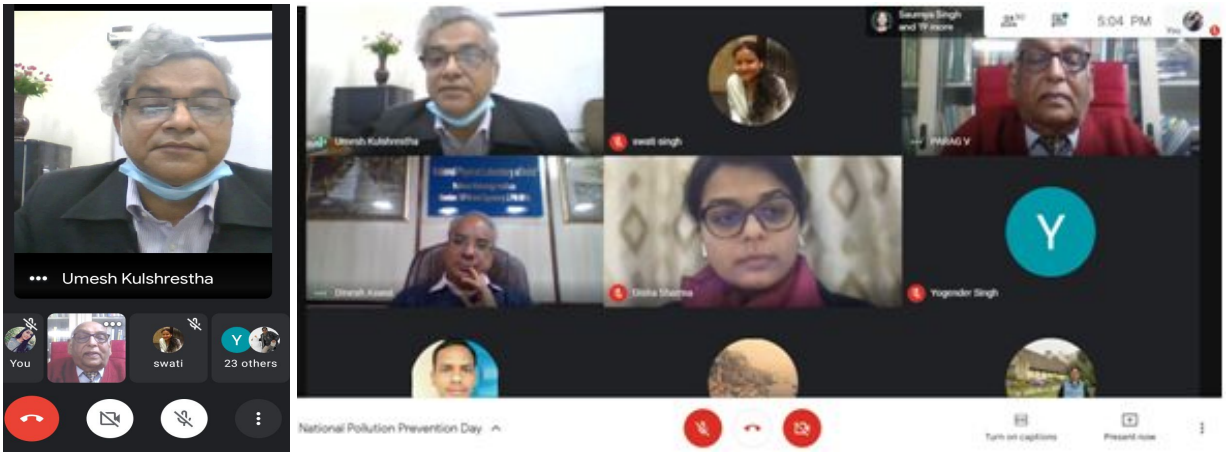


Fig.2: Prof. Umesh Kulshrestha, Dean & ENVIS Coordinator, SES, JNU

Prof. D K Aswal, Director, CSIR - National Physical Laboratory, New Delhi – He started his talk by remembering the horrific Bhopal Gas Leak Tragedy when 5 lakh people died due to leak of MIC.

Dr Aswal mentioned the major causes of such accidents such as 1). Negligence 2). Quality assurance 3). Operation of plants beyond capacity. He mentioned that we have pollution everywhere affecting our soil, air and water. He also talked about noise pollution. As we become tech savvy, we are harming others as nothing comes free of cost. Therefore, there should be a balance between technological growth and its impact on the environment. Effects on the environment are not only short term but are accumulated over a long time.

Dr Aswal cited an example of plastic, how plastic was celebrated as a wonder product, but today the world faces the problem of plastic disposal and microplastic. He also mentioned

the example of microwaves used in telecommunication which is the source of enhanced radiation doses and heat in our body.

Dr Aswal suggested that we need to maintain Quality Assurance at the time of production as well as at the time of measuring environmental effects.

Dr Aswal mentioned issues related to monitoring of pollution, which standards to follow for the measurements? According to him all the measurements have to be calibrated with S.I. units, with zero uncertainty. The seven S.I. units of measurements; meter (m), second (s), mole (m), ampere (A), Kelvin (K), candela (cd), kilogram (kg) should be available with the National Metrological Institute (NMI) in our case the National Physical Laboratory, New Delhi.

In India the concept of calibration through the NMI is not developed and thus how much uncertainty an equipment has, is not confirmed. In his discussions with MoEF&CC and CPCB, it was decided to make the National Primary Standard for Environment & Pollution Parameters. He summarised with emphasizing upon minimization of waste and the uniform measurement from prototype level to industrial application to prevent pollution.

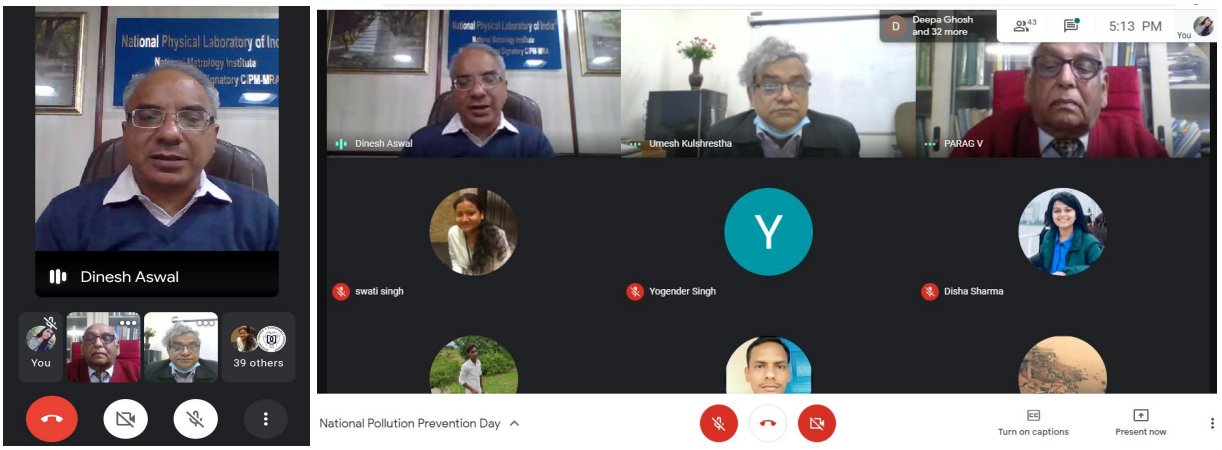


Fig.3: Prof. D K Aswal, Director, CSIR- National Physical Laboratory, New Delhi.

Prof. C. K. Varshney, Emeritus Professor, JNU - He initiated his talk by referring to the world's biggest Industrial disaster, the Bhopal Gas Leak Tragedy this date in 1984. During the accident, the tanks were collapsed and MIC gas leaked leading to huge numbers of deaths and deformities for which generations after generations are suffering.

Prof Varshney mentioned some other major industrial accidents which took place in our country: Sri Ram Gas Leak 1984 in Delhi, Oleum gas dropped and sulphur dioxide pollution. Bhilai gas leak, after two years again in Bhilai, then gas leak in Delhi, Vizay accident Guwahati oil well accident. We should not forget these accidents.

According to him **pollution is a resource at the wrong place.** If we increase efficiency of resources used and change the process, then we can cut down the pollution.

Prof Varshney mentioned that the sectoral approach is responsible for more pollution. He cited an example of DDT, and said that instead of a sectoral approach we should follow a holistic approach. For example Internal combustion engine when discovered was very important and a great achievement, but due to its pollution & climate change now everyone wants it to go to the grave.

EPA was brought due to Bhopal Gas Tragedy and decided such accidents should not repeat but reality is many such accidents have taken place even after enactment of EPA and hence, the introduction of legislation is important at the same time it's implementation is equally important.

Prof Varshney cited an example of Delhi and pollution challenge. 33% of farm produce is wasted which is never reached to the food table. Agriculture is the main culprit to greenhouse gas. We should use as much as one needs, econominize resource use and waste minimization.

Prof Varshney talked about renewable energies like solar energy, biofuels to cut down fossil fuel use. Sugar industry should be promoted to produce biofuels. He suggested to spread the message of Pollution Prevention and control. He urged that all the stakeholders should come out and have firm resolution for pollution prevention and control. He asked the students to go out and spread such a message to the society.

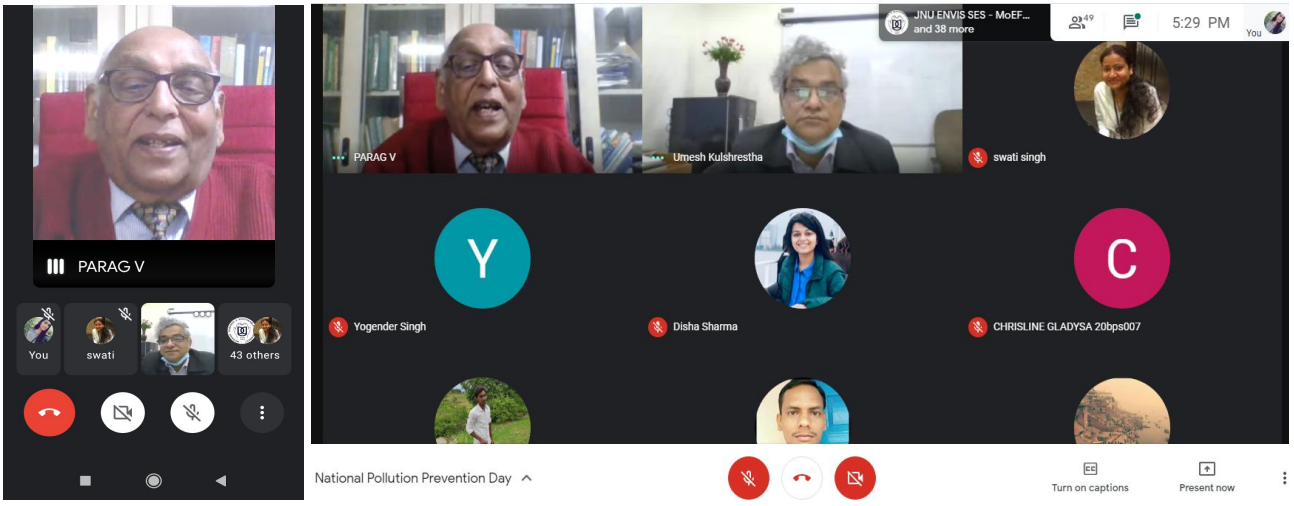


Fig.4: Prof. C K Varshney, Emeritus Professor, SES, JNU

Dr. Disha Sharma, Postdoctoral Research Associate, Princeton University, USA – She talked about Air Pollution in Delhi and India. India is dealing with a severe Air Pollution Problem. Exposure to air pollution in India contributed nearly 1.6 million deaths in 2019. $PM_{2.5}$ associated mortality in India increased at an annual rate of 2.3% between 1988 - 2015.

Ambient O_3 adversely affecting crop yield and seed quality for all major crops in India. The changes in aerosol loading over the indian subcontinent have direct bearing on monsoon.

Dr Disha also talked about Covid -19 lockdown and reduction in aerosol loading and other polluting gases. She mentioned that the first time we realised what the clean air meaning is. The lockdown recorded a reduction of nearly 40 - 60 percent in $PM_{2.5}$ & PM_{10} , 20-30% in CO and various concentrations of SO_2 and O_3 across India. Mumbai and Delhi reported a 40 - 50% decrease in NO_2 during lockdown. During lockdown 10 best cities were from North India compared to South in 2019. She also talked about people's perception about a clean environment.

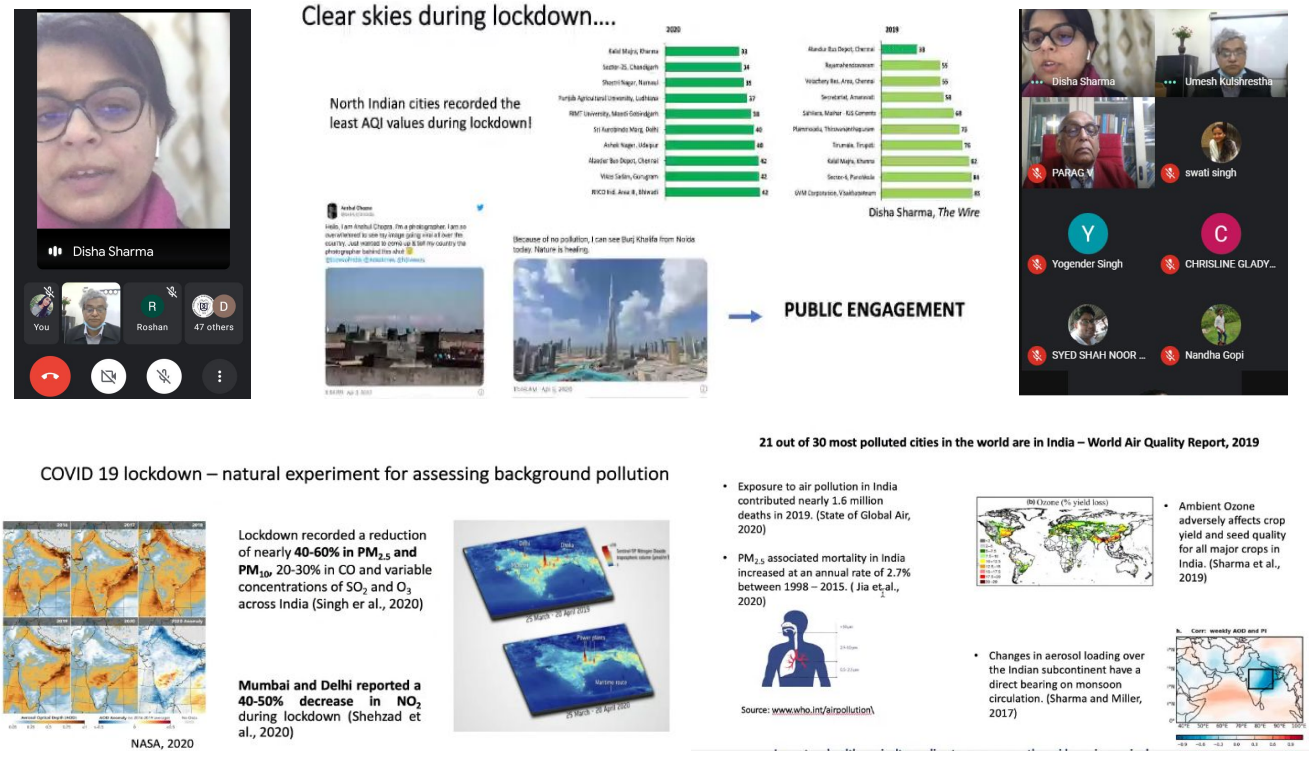


Fig.5: Dr. Disha Sharma, Post Doctoral Research Associate, Princeton University, USA

She explained winter time pollution High:

1. Winter time pollution levels are higher due to unfavourable meteorology - high surface pressure, low boundary layer height, calm surface winds, negligible precipitation etc.
2. Crop residue burning is a major source of pollution in NCR in weeks preceding Diwali- (contributes between 7-78% to pm 2.5 enhancements in NCR (Cusworth et al., 2018).
3. Incidents of stubble burning increased by 15% this year compared to 2019 (CPCB and MoEF&CC analysis).
4. Also showed chronology of air pollution legislation, bodies and organisations. Sharing about *'Diye Wali Diwali'* campaign mentored by Prof Kulshrestha where Disha took lead by organizing street level contacts with other students of the lab in 2017. The campaign also had the slogan ' Say No to Crackers'. She shared her experience of how the society engagement was done and the survey responses were received. According to that time survey 70 - 80% people had a negative response to follow pollution legislation because of sentiments. She summarised with the statement that multiple stakeholders should be involved for environmental justice to be ensured.

Shivangi Tripathi, YoHo Gyan Lead & Student, SES, JNU –Talked about YoHo activities and her ideas about Pollution Prevention and Control. She realised that Young Holistic (YoHo) like platforms are needed for the all-round development of the students.

She declared the results of the Quiz Competition held on the occasion of National Pollution Prevention Day jointly with YoHo and ENVIS.

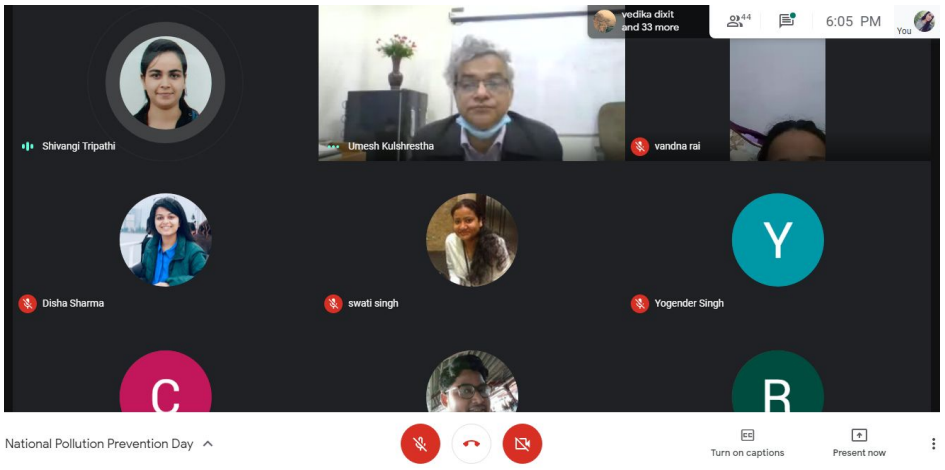


Fig.9: Ms. Shivangi Tripathi, YoHo Gyan Lead, SES, JNU announced result online

Vote of Thanks was extended by **Ms. Swati Singh, Programme Officer, JNU ENVIS -** Swati Singh thanked all the speakers, participants, students and the faculty for making the event successful. Special thanks to all the participants of the quiz competition and heartiest congratulations to the winners.

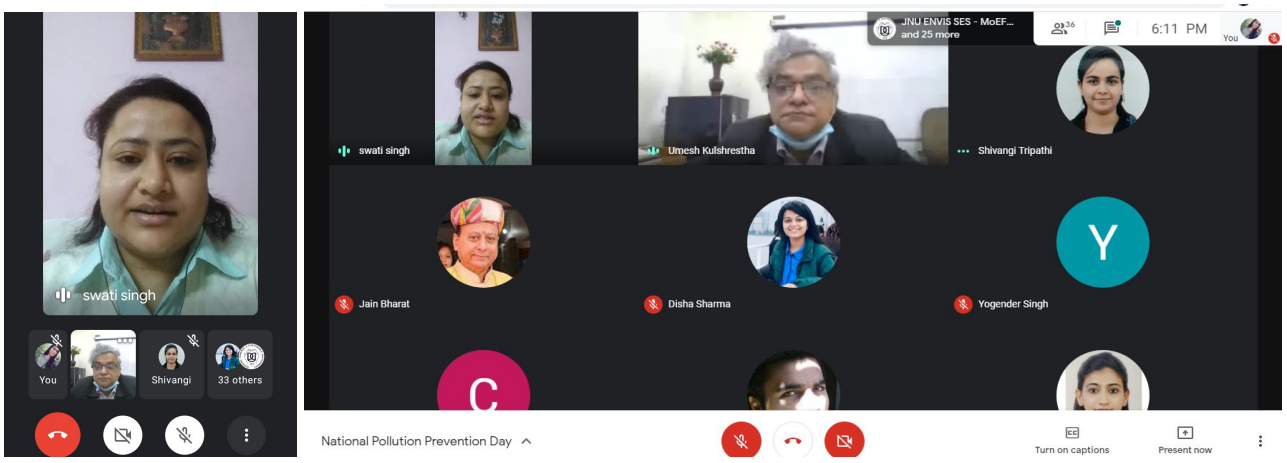


Fig.9: Ms. Swati Singh, Programme Officer, JNU ENVIS

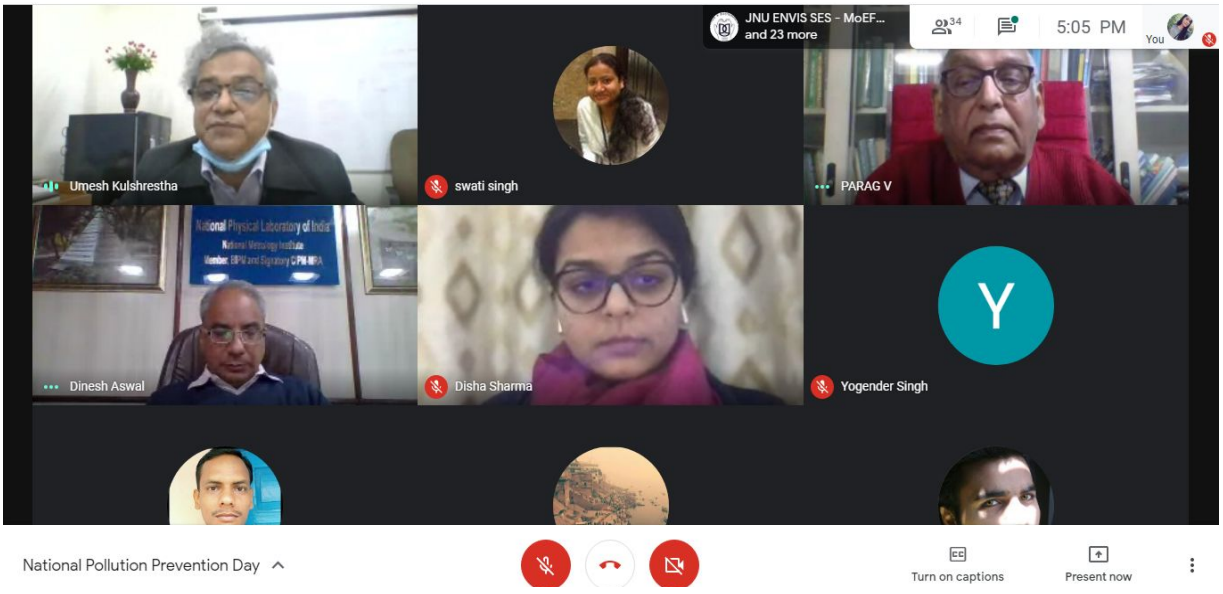


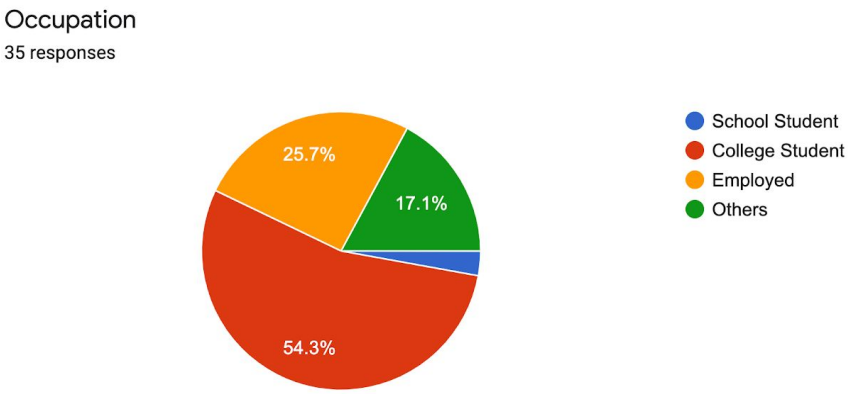
Fig.9: Panelists & Participants of the Panel Discussion

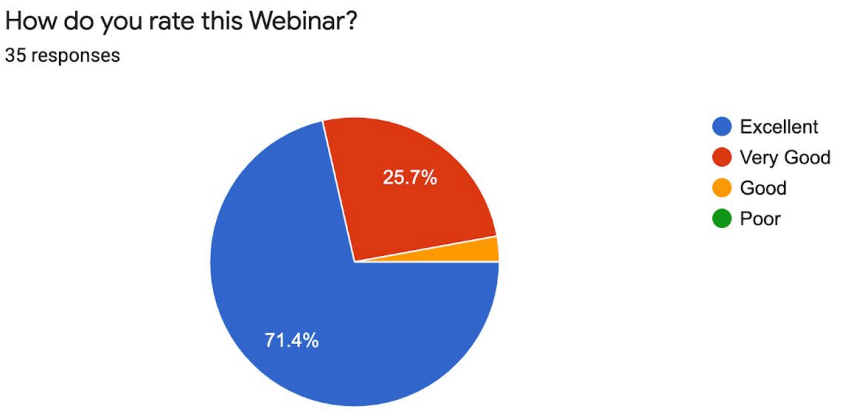
The session came to an end with the distribution of e-certificate to all the participants. This is to mention that a very positive feedback has been received from the participants about the event.

Recommendations:

1. Pollution Prevention should be a motive of life and it should be encouraged in the society.
2. Sustainable development should be the mantra and balance between growth and its impact on the environment should be analyzed and integrated for long term effect.
3. Quality Assurance is the key to pollution prevention. QA should be followed first at the time of production and also at the time of measuring environment effects.
4. More than enactment of legislation, its proper implementation is very important.
5. Resources should be used with care and economy.
6. Increase in monitoring of pollution parameters and data democratization is the need of the hour.

Feedback:





1	Occupation	How do you rate this Wel	Short line feedback
14	Others	Very Good	....."
15	College Student	Excellent	The webinar was very informative and useful
16	Employed	Very Good	Very informative
17	Others	Excellent	Very informative
18	College Student	Excellent	Very informative session.
19	College Student	Excellent	GOOD
20	College Student	Excellent	Very very informative
21	Employed	Very Good	Very informitive
22	Employed	Excellent	Plz do organise more such valuable sessions in future as well.
23	College Student	Very Good	It was simply amazing. I loved the way they carried the class .I have gained many useful information. This session is really very useful.Thank you so much.
24	School Student	Excellent	Very Informative and excellent webinar
25	Others	Excellent	Very knowledgeable
26	Employed	Excellent	Very informative session. Protect our Mother Nature.
27	College Student	Excellent	Wonderful Session on National Pollution Prevention Day
28	Others	Very Good	Informative session.
29	College Student	Excellent	It was really a very good experience for me. Very interesting explanations overall a very informative session. Thank you all sir and mam
30	College Student	Excellent	The webinar was awesome and insightful.

Webinar Live Session on the official FB page:
https://www.facebook.com/jnuenvis/videos/184310640005495

Webinar on the official YouTube page:
https://www.youtube.com/watch?v=mJH5T13ceLQ

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