

# Five-day FDP on “Recent Advancement in Environmental Sustainability And Conservation Strategies”

(17<sup>th</sup>- 21<sup>st</sup> May 2021)

Day 1 - 17<sup>th</sup> May 2021

Recording Link: <https://youtube.com/playlist?list=PLvfJR6KnLIVnNG18DUcZmpTno3mCViiM8>

May17, 2021 Inauguration Session Time: 10:30 AM-12:25PM

VENUE: Through the online platform: [Zoom](#)

The symposium started with **lighting of lamp** virtually and video of Amity University. The **introduction** to the theme was given by **Dr. Shivangi Somvanshi**, moderator of session emphasizing the need to Environmental Sustainability and Conservation Strategies. The programme started with address by **Dr. Manju Rawat Ranjan** and **Dr. Renu Dhupper**, Joint Coordinators, AIES. Dr. Manju shared the Institute’s achievements and importance of the FDP. **Dr. Renu Dhupper** welcomed all dignitaries and expressed the need for such FDP to raise concerns over Environmental Sustainability.



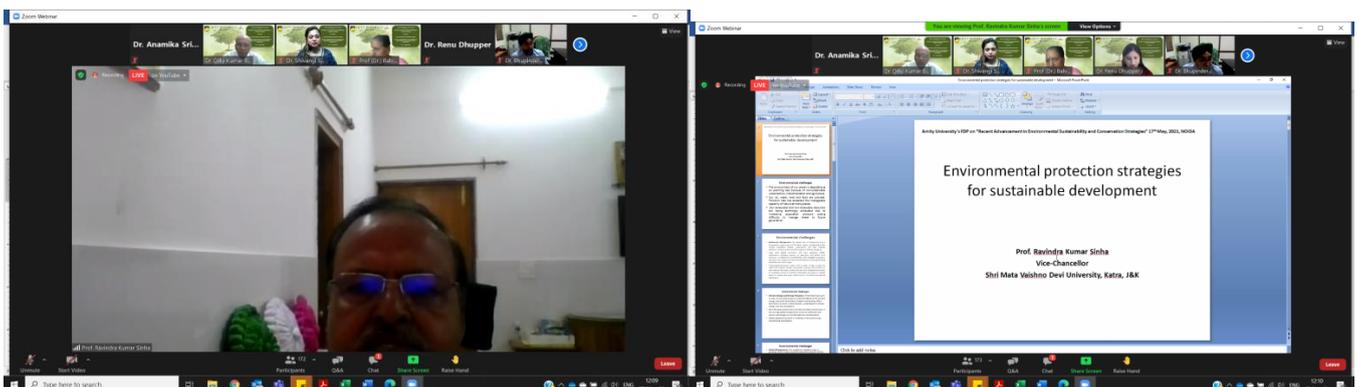
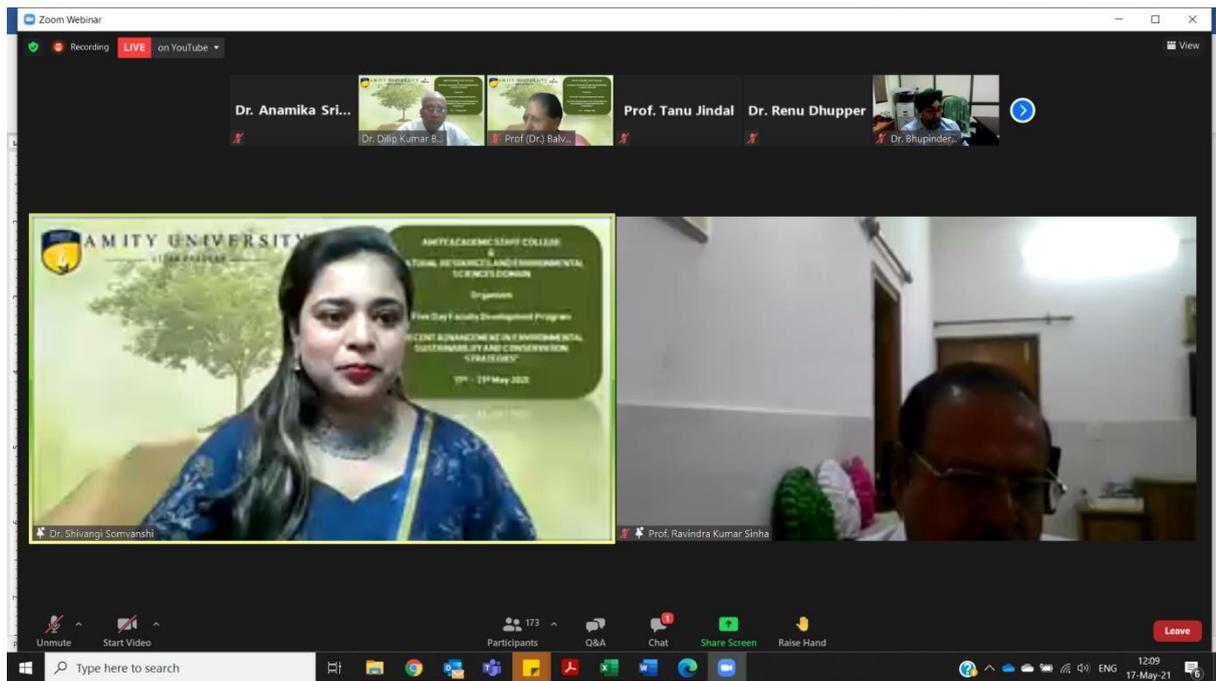
Dr. Renu Dhupper's screen



Dr. S.P Singh (Director, ASNRSD), Dr. N.P. Chauhan (Director, AIFW) & Dr. S.M Veerabhadrapa (Head, AIGIRS) Amity University Uttar Pradesh, India highlighted the achievement of their institutes.

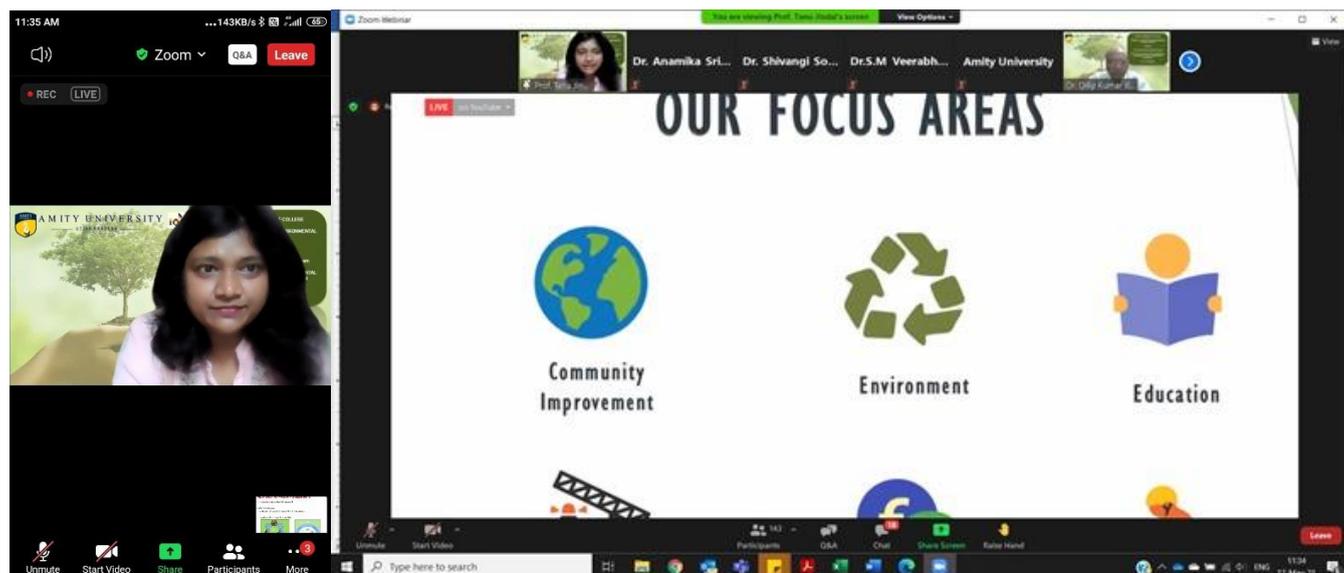


The Chief-Guest, Prof. Ravindra Kumar Sinha, Vice-Chancellor, Shri Mata Vaishno Devi University gave his inaugural address on the topic of “Environmental protection strategies for sustainable development”. He highlighted mainly on the environmental challenges, plastic pollution and environmental protection strategies. He raised concerns over global and Indian initiatives for environmental protection. He also gives brief description on use of remote sensing in natural resource management and environmental protection. He also emphasized for the implementation of environmental protection strategies for agriculture.



Prof. (Dr.) Tanu Jindal, Grp Add. Pro. VC (R&D), shared her presentation on Environmental Sustainability and Conservation Strategies. She covers the topic of scaling the circular economy,

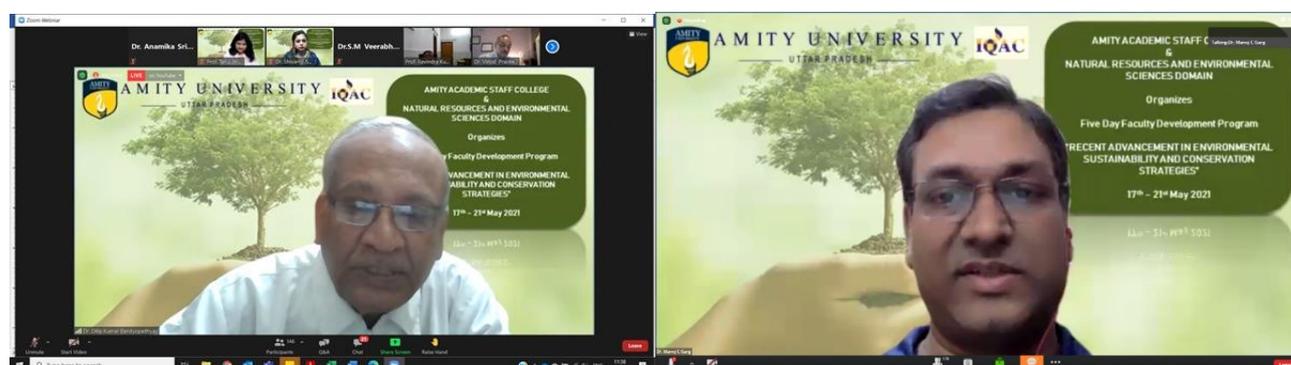
approaches to waste management, plastic pollution and phased approach for international corporation.



Prof (Dr.) Balvinder Shukla, Vice Chancellor, Amity University Uttar Pradesh, India, emphasized mainly on the environmental challenges and environmental protection strategies.



Address by Prof. (Dr.) D K Bandyopadhyay, Chief Advisor (FPO), and mentor AIES apprised everyone of all concerns related to Environmental Sustainability issues in India. He elaborated the need for such events and congratulated all organizers for organizing the event and encouraged everyone to organize more such events.



Inaugural came to an end with Vote of Thanx given by Dr. Manoj Chandra Garg, Assistant Professor, Grade - I, AIES, Amity University Uttar Pradesh, Noida, to all dignitaries for joining the platform.

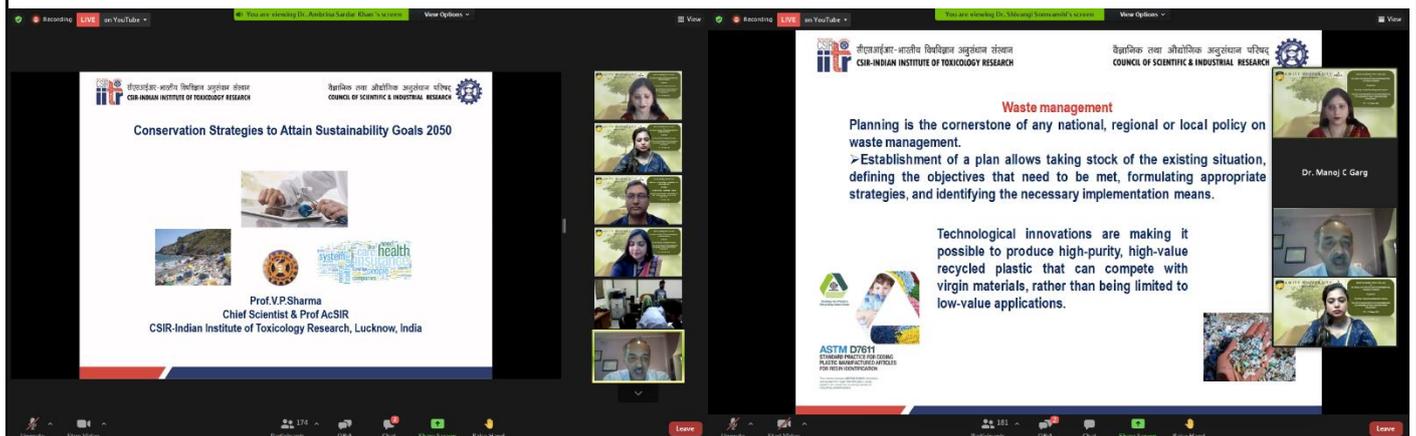
May17, 2021

Session-1

Time: 12:25PM-03:15 PM

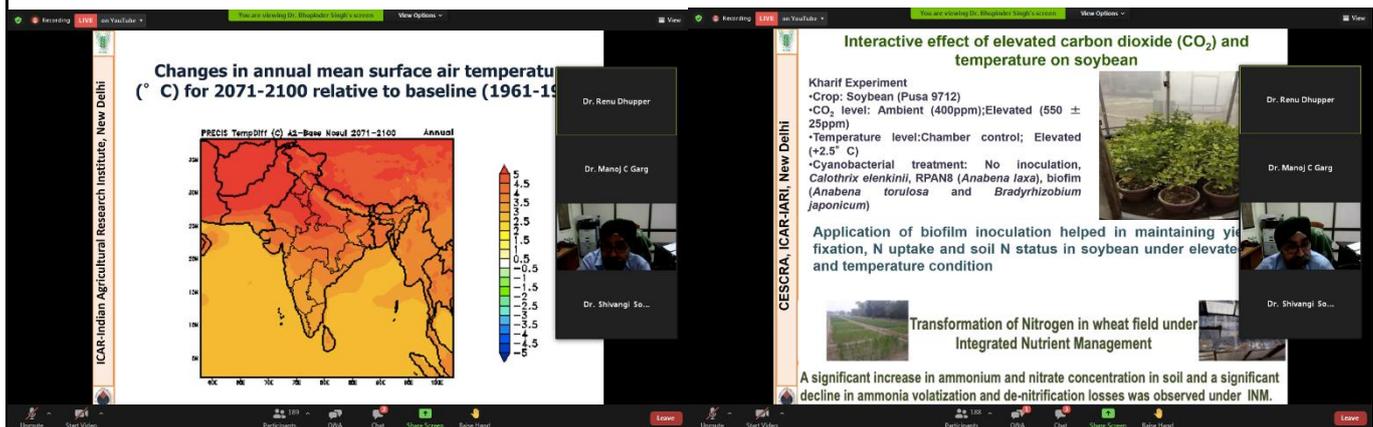
### Theme: Water Conservation and Technological Development

The first session started with the welcome of the speakers by **Dr. Manju Rawat Ranjan**, Associate Professor & Joint Coordinator, AIES. **Dr. Shivangi Somvanshi** introduced the first speaker, **Dr. Vinod Praveen Sharma**, Senior Principal Scientist, Regulatory Toxicology CSIR-Indian Institute of Toxicology Research, Lucknow. In his talk on 'Conservation Strategies to attain sustainability goal 2050', Dr. Vinod Praveen Sharma gave a focus on the effects of COVID-19 on the Sustainable Development Goals. He was concerned over the interdependent implications and recent trends in international development related to sustainability as a useful framework in the post-pandemic recovery period. He emphasized on Toxicology and environment and its R & D, innovation, futuristic approaches to improve the environmental performance of our products and to reduce environmental impacts of our business activities across the entire value chain.

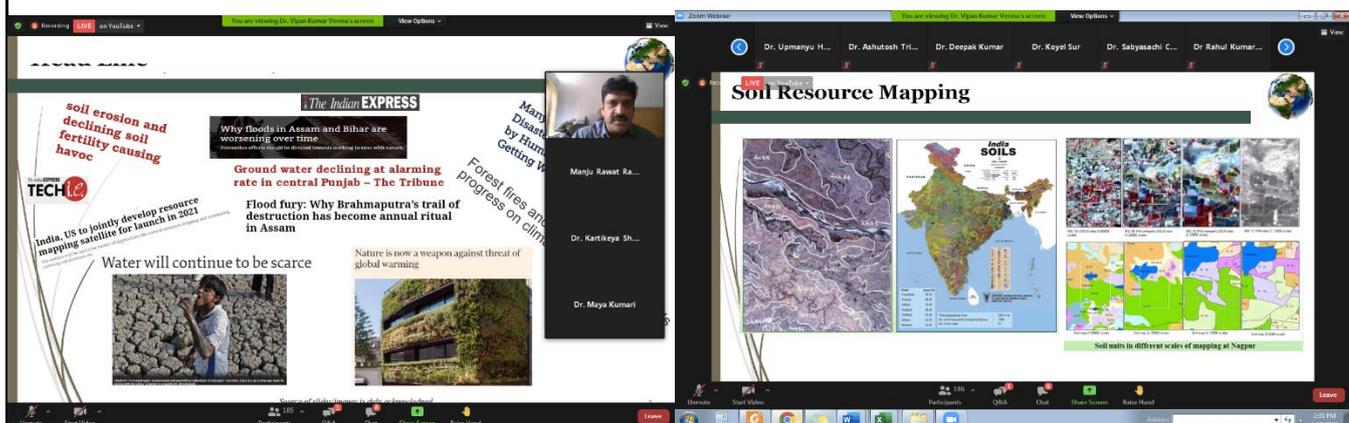


The second speaker of the session was **Dr. Bhupinder Singh**, Principal Scientist and Radiological Safety Officer, Centre for Environment Science and Climate Resilient Agriculture (CESCRA), Nuclear Research Laboratory Building; ICAR-Indian Agricultural Research Institute; New Delhi. His lecture was on 'Challenges and preparedness to manage climate change and radiological emergencies'. He started with the brief description about various environmental challenges including environment-friendly agriculture, climate-smart agriculture, pollution smart agriculture (air pollutants, heavy metals and others), crop residue management, radioecological studies, waste management: industrial, e-waste etc, adaptation and mitigation techniques and capacity building and policy formulation.

He highlighted some important topics like aspects of climate change scenario for India with implications for agriculture, estimates of future levels of CO<sub>2</sub> and temperature, projected impacts of climate change on Indian agriculture, effect of elevated CO<sub>2</sub> and temperature on rice yield and declining apple yields in Himachal Pradesh due to inadequate chilling. He also explains the potential and cost of greenhouse gas mitigation with conservation agriculture and organic farming.

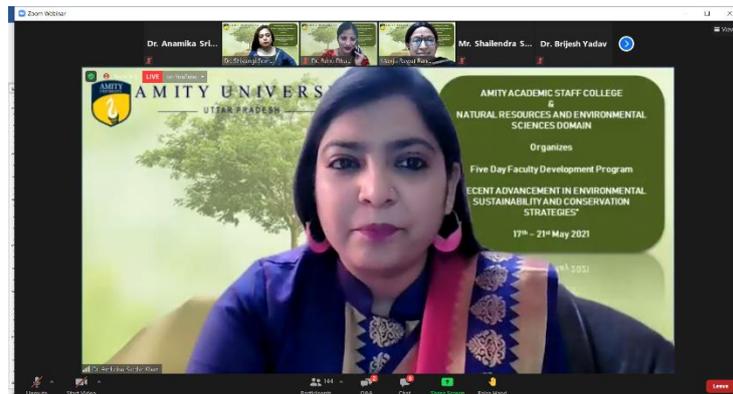


The last speaker of the session, **Dr. V. K. Verma**, Head & Scientist, Natural Resources & Environment (NR&E) Division, Punjab Remote Sensing Centre (PRSC), Ludhiana, gave his deliberation on 'Geoinformatics for Natural Resources: Mapping, Monitoring and Management'. He gave an overview about soil resource mapping, watershed characterization, soil erosion modelling and electromagnetic waves used in remote sensing. He suggested that inventory, characterization, site specific intervention using geoinformatics need to be focus.

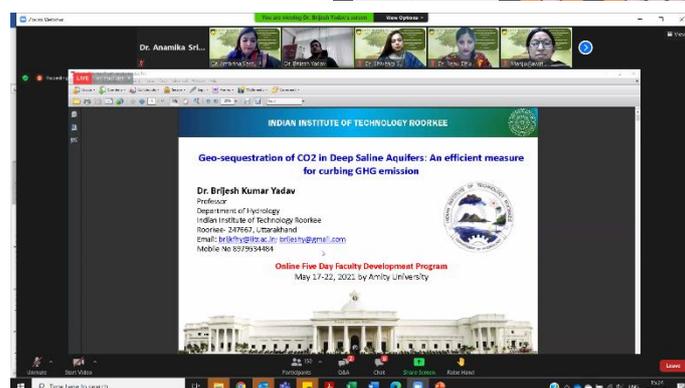


The session ended with thanks-giving by **Dr. Shivangi Somvanshi** to all the esteemed speakers for sharing the valuable views and enlightening all the participants.

The plenary session II started with the welcoming of the speakers by Dr. Ambrina Sardar Khan.



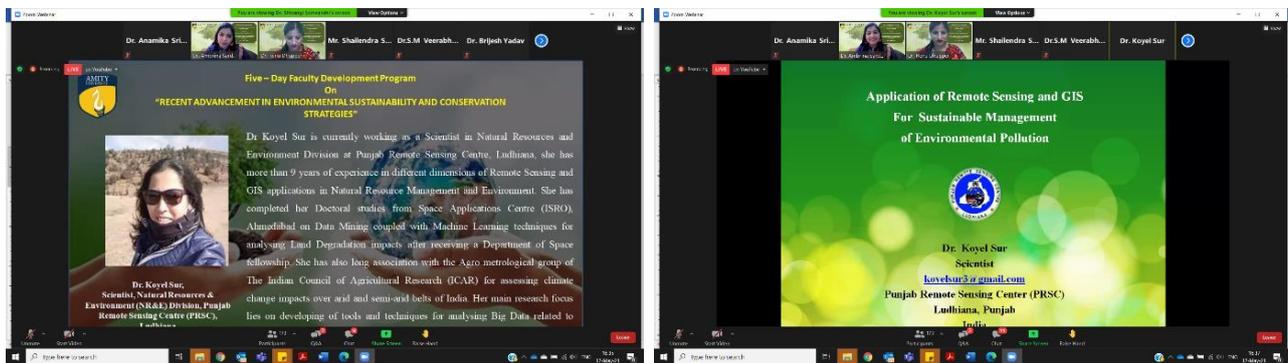
The first speaker Dr. Brijesh Yadav, Professor, Department of Hydrology, IIT Roorkee presented his talk on “Geosequestration of CO<sub>2</sub> in subsurface: An effective measure for curbing GHG emission”. In his talk he explained about the Carbon cycle and how the human perturbation in this is leading to Climate Change. Later he discussed about the carbon sequestration in sub-surface and in the atmosphere and the need for CO<sub>2</sub> sequestration. He also briefly explained the C-sequestration options and carbon capture and storage. Following this he described the CO<sub>2</sub>-Trapping mechanisms i.e primary/ geological trapping and secondary/ geochemical trapping. He then gave insights on the universal capacity of possible CO<sub>2</sub> storage reservoirs. He also gave glimpse of works CCS Projects.



The second Speaker of the session Mr. Shailendra Singh, Founder and CEO, SustainMantra, delivered his talk on “Strategies towards attaining sustainability goals”. He started his talk by explain sustainability and the challenges associated for attaining the same. He also explained the driving momentums of sustainability like: social capital, natural capital, mass awareness etc. He stressed on the fact that how sustainability requires a multidisciplinary approach. He later discussed about balancing the societal needs and the environment. Being in the corporate sector he later explained about what are corporates most concerned about and how global companies are responding? Moving further he discussed about climate change mitigation action Paris agreement.



The next speaker Dr. Koyel Sur, Scientist, Punjab Remote Sensing Center, Ludhiana, presented her talk on “Application of Remote Sensing and GIS for Sustainable Management of Environmental Pollution”. First of all, she gave a brief introduction on the environmental Pollution, its relation with unsustainable management and its possible consequences. Later she highlighted the Air Pollution and its causes. She explained why to use remote sensing and GIS for air pollution monitoring.



The last speaker of the session Dr. Usha Meena, Associate Professor, School of Environmental Sciences (SES), JNU, New Delhi presented her talk on “Climate Change and Sustainable Agriculture”. In her talk she showed the concern on how the Earth’s capacity to provide goods and services are divided unevenly. She explained the world footprint by nations explaining the disparity between developed and developing nations. She later explained the carbon footprint and a few of the international reports. Following this, she discussed about the Global warming and climate change with context to the climate sensitive regions and Indo-Gangetic plain. She later focused her talk on Agriculture as sources and sink to GHGs. At last, she discussed about the National Initiatives for Climate resilient Agriculture.



The session ended with thanks-giving by **Dr. Kartikeya Shukla** to all the esteemed speakers for sharing the valuable views and enlightening all the participants.

Day 2 – 18<sup>th</sup> May 2021

Recording Link: <https://youtu.be/COTv9RghW8o>

May18, 2021

PLENARY SESSION – III

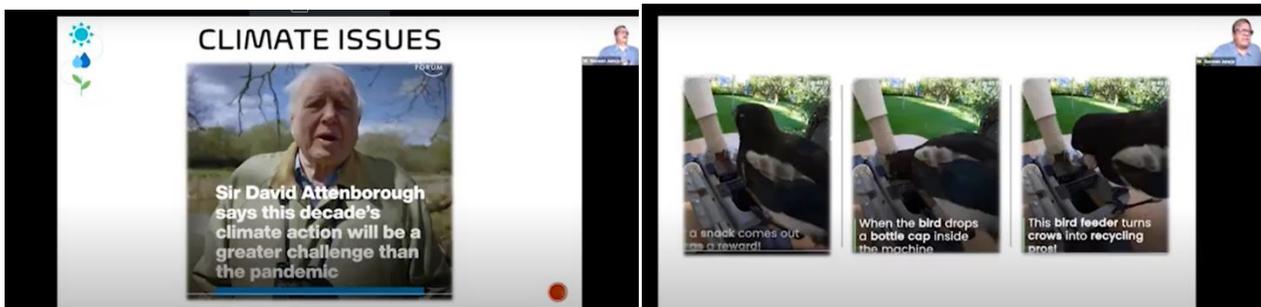
10:30AM – 02:30PM

VENUE: Through the online platform: [Zoom](#)

The plenary session II started with the welcoming of the speakers by Dr. Richa Dave Nagar (moderator of the session) and Dr. Renu Dhupper (joint coordinator, AIES).



The first speaker Mr. Naveen Juneja, regional PF Commissioner, EPFO, GOI, Social Security and Global Mobility Strategist, Education Management Specialist, Employees PF Organization, Government of India, Delhi University presented his talk on “Emergence of New Career Frontiers in Environmental & Allied fields in a Post-Covid World”. During his talk he talked about the economic value of Biodiversity. He also talked about various climate issues and emphasized that climate action will be a greater challenge than the pandemic.



The second Speaker of the session Prof. Y. K. Sharma, former head and professor of botany, Lucknow University, delivered his talk on “Sustainable Farming: A model for tomorrow”.

**Five - Day Faculty Development Program**  
On  
**"RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRATEGIES"**

**Prof. Y.K. Sharma**  
Former Head & Prof of Botany  
Lucknow University  
Topic: Sustainable farming: A model for tomorrow

- Prof. Y.K. Sharma is former Head, Botany Department, University of Lucknow.
- He is Fellow of the International Society of Environmental Botanists.
- Prof Sharma has 5 years of Post Doctoral Research Experience of USA, and is a visiting fellow of two US Universities.
- With rich experience of teaching and research, Prof. Y.K. Sharma has been awarded several Research projects from ICAR, World Bank, UGC and UP CAR, Uttar Pradesh Govt.
- Prof. Sharma has published more than 100 research papers in the National and International Journals of repute, Text Book of Botany, edited 5 books on the subject, authored 8 Book Chapters besides producing 32 PhDs.
- He is the Executive Editor of the Journal of Biological and Chemical Research.
- Prof. Y.K. Sharma has served on various administrative positions in the University of Lucknow

He started his talk by explaining ‘Sustainable Agriculture’, where he elaborated that meeting society’s present food and textile needs, without compromising the ability for current and future generations to meet their needs.

**Gobar Gas Plant**

(Biogas is primarily composed of methane gas, carbon dioxide, and trace amounts of nitrogen, hydrogen, and carbon monoxide)

Requirement: 100 Kg dung/day generates gas for fuel and lamps for entire farm of 20 acres.  
Manual small plant costing: Rs.20000/- only

Gobar Gas typically refers to a gas produced from the dung by the breakdown of organic matter in the absence of oxygen.

Biogas is more safer than CNG and 3 times more safer than LPG Cylinder.

Biogas is the Cheapest and never ending multipurpose fuel.

Biogas is a clean fuel with good calorific value. It can be used as a replacement for LPG or natural gas and can generate electricity. It is independent of sun, wind or water.

Less Suitable For Dense Metropolitan Areas.

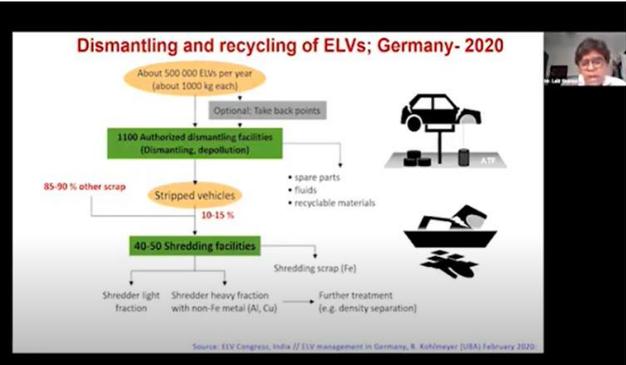
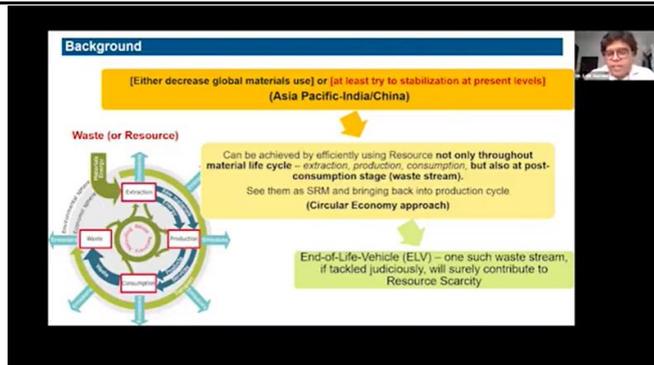
**Integrated Fish Farming**

- freshwater aquaculture- Indian carps like rohu (*Labeo rohita*, left) and catla (*Labeo catla*, right) are among the main fish species farmed in India

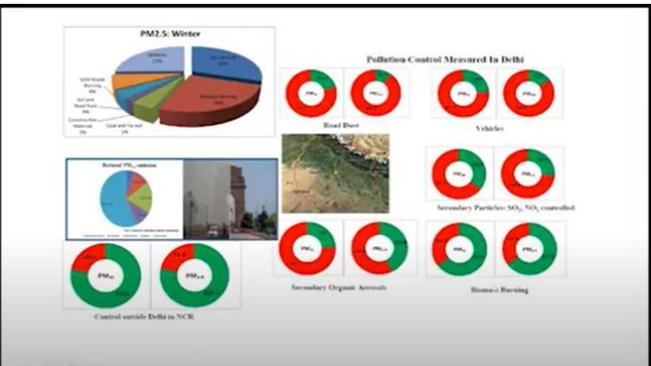
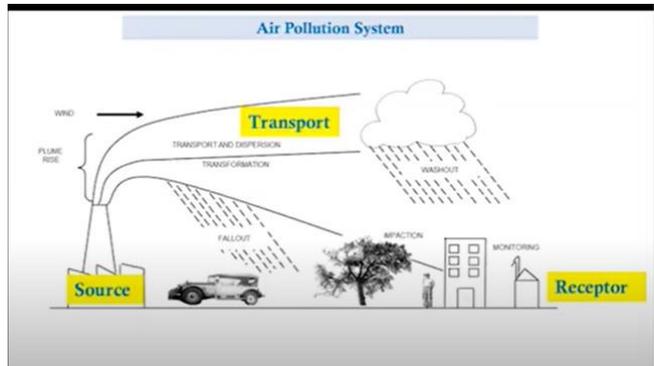
Here *Clarias batrachus* (Deshi Magur fish) is used

Little amount of cow dung, urine, poultry excreta work as the food for this fish. Rain and run off water go into the pond. When water level is high, used for irrigation.

The next speaker Mr. Lalit Sharma, Technical Expert, GIZ India, presented her talk on “End of Life Vehicles (ELV) and its Potentials in mitigating the Resource Scaricity ”. He talked about ELV Management in detail along with the established (ISO) supply chain mechanism. He also touched upon the global (regulated) practices with respect to ELV management.



The fourth speak of the day was Dr. Dharendra Singh, CEO, Founder & Air Quality Specialist at Airshed Planning Professionals Private Limited. He presented a talk on “Air Quality: Sustainability”. He started his deliberation by explaining sustainability, further he gave us insights on Air Pollution system along with different monitoring and modeling aspects.



The last speaker of the session was Dr. Shivangi Somvanshi , Assistant Professor, Amity Institute of Environmental Sciences, Amity university, Noida. She gave a very insightful deliberation on “Utilizing Geospatial Information to implement SDG and monitor its progress”.

**AMITY**

**Five – Day Faculty Development Program**  
On  
**“RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRATEGIES”**

**Dr. Shivangi Somvanshi**  
Assistant Professor, AIES  
Topic: Utilizing Geospatial Information to implement SDG-11 and monitor its progress

- Dr. Shivangi Somvanshi is a professional with diverse experience and a reputation for success in the field of Geospatial Technology.
- She completed her master degree in Environmental Engineering and Doctoral degree in Geoinformatics and Remote Sensing.
- She has 11 years of experience in research, teaching and capacity building in Remote Sensing (RS) and Geographical Information System (GIS).
- She is working as Assistant Professor with Amity University, Noida (AUUP).
- She published several research papers in refereed journals and books to her credit.
- Her major accomplishments in remote sensing and GIS applications in environment includes modelling of air quality for Delhi and Mumbai, monitoring and predicting urban sprawl, new and innovative image enhancement techniques, quantitative assessment of soil attributes, precision agriculture, estimation of biomass and carbon sequestration etc.



She started her talk by explaining all 17 sustainable development goals and then about the geospatial information. She said It is over a long time since the 2030 plan for sustainable development was embraced by the United Nations and its member states in September 2015. A few endeavors are being made by member nations to contribute towards accomplishing the 17 Sustainable Development Goals (SDGs). To monitor the progress for every set goal, a bunch of quantifiable indicators, targets, and observable data explicit to every goal has been devised. This requires precise data observations at local community level and subsequent decisions, which incorporate the coordinated effort of different stakeholders. The United Nations has highlighted issues of data quality and data collection capacities to ideally quantify different indicators and has emphasized on the requirement for a ‘Data Revolution’ to upgrade the information quality. Geospatial technology is providing one of the most promising data sources which can be applied for monitoring progress in achieving the SDGs.



She ended her talk with a quote by Roger Tomlinson (Father of GIS) “I am very positive about the future of GIS, It is the right technology at the right time”.



The session ended with thanks-giving by **Dr Richa Dave Nagar** to all the esteemed speakers for sharing the valuable views and enlightening all the participants.

May18, 2021

PLENARY SESSION – IV

02:30PM – 05:00PM

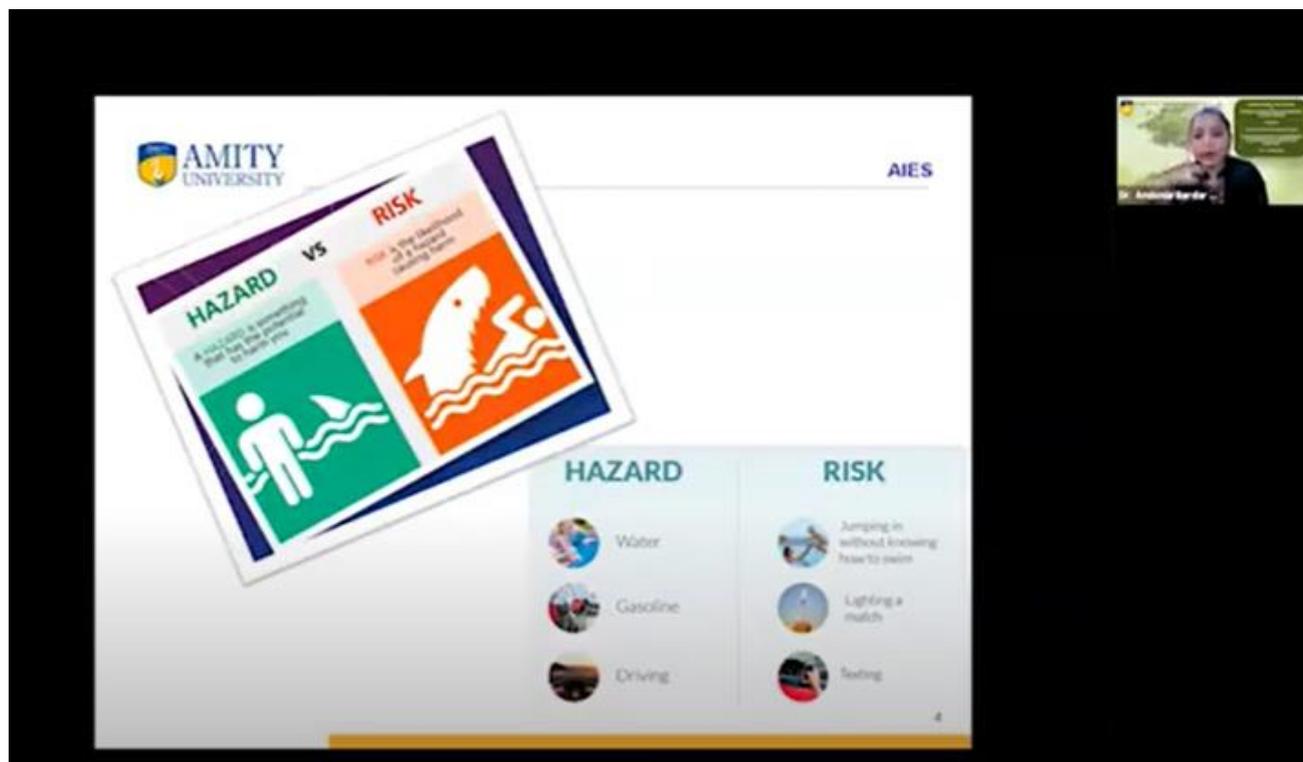
VENUE: Through the online platform: [Zoom](#)

The plenary session IV of 2<sup>nd</sup> day of FDP on “Recent Advancement in Environmental Sustainability and Conservation Strategies” started as per the schedule at 2:30 pm. **Dr Kartikeya Shukla**, Assistant Professor, Amity Institute of Environmental Sciences, Amity University, Uttar Pradesh, introduced the first speaker **Mr.Vishwa Bandhu Bhattacharya** , Divisional Head – Sustainability, Apollo Tyres Limited. His topic of presentation was Advancement in Environment and Sustainability. In his presentation he talked about the various sustainable approaches to ensure environmental management. He shared his experiences of working in the corporate with sustainable mindset. He also mentioned several initiatives of recent times by the Ministry towards sustainable development. Followed by presentation, Mr. Vishwa Bandhu Bhattacharya, answered the queries of participants.



The second speaker of the session was **Dr.Ambrina Sardar Khan**, Assistant Professor-II, Amity Institute of Environmental Sciences, Amity University, Uttar Pradesh, India. Her lecture was on, “Environmental health risk assessment and adaptation strategies”. She started her talk with the basic terminologies used in Risk Assessment and Management. She emphasized on the need of Environmental Health & Risk Assessment especially at the work place. She presented certain case

studies to make the concepts further clear. Queries from the participants were also answered by Dr AmbrinaSardar Khan after finishing her presentation.



The last speaker of session IV was **Dr Rahul Kumar Dhaka**, Assistant Professor, Department of Chemistry, CCS Haryana Agricultural University. He delivered a lecture on Biochar Development and its Applications: An Smart and Sustainable Solution of Agricultural Residue Management. He discussed the various methods of formation of Biochar and explained its various applications ranging from generation of heat and power and an addition to soils, in which it serves as a fertilizer and carbon sequestration agent to various adsorption applications including waste water treatment. He put forward the need of research on the effective biochar production, but also for potential utilization/application not only for environment but also for agriculture. Several queries were successfully answered by Dr Rahul after his insightful deliberation.

The session ended with thanks-giving by **Dr. Ashutosh Tripathi**, Assistant Professor-II, Amity Institute of Environmental Sciences, Amity University, Uttar Pradesh, to all the esteemed speakers for sharing the valuable views and enlightening all the participants.

Day 3 – 19<sup>th</sup> May 2021

Recording Link: <https://youtu.be/IAAdtXxhWDg>

May19, 2021

PLENARY SESSION – V & VI

10:30AM – 4:30 PM

VENUE: Through the online platform: [Zoom](#)

Opening remarks of the third day was given by Dr. S.P. Singh Director, Amity School of natural Resources & Sustainable Development Amity University Uttar Pradesh and he also addressed to participants.

Prof. S.P.Singh, Director, Amity School of natural Resources & Sustainable Development Amity University Uttar Pradesh

He talked about the forest and people. He also gave briefed presentation about the institution. He talked about fact about forest and people, Biome and Biogeographic Zone, Forest policy, Acts, Role of forest in mitigating impact of pollution on Environment, Tangible & Intangible benefit from Forest, People Dependency on Forest Resources for livelihood.

He said that India is densely populated country (> 382 person/ km<sup>2</sup> with high pressure on land and forest resources ( 0.06 ha/ capita forest ).Forest are store house of Biodiversity contributing to ecosystem services which cannot be measured in economics terms.17th mega diverse nations of the world with diverse landscape. Varied edaphic, climate & topographic conditions have resulted in a wide range of ecosystems. Forest play a major role in maintaining the environment, food , water security of the country. Catchment of More than 450 rivers and their rivulates.

Dr. Varun Narayan Mishra, Assistant Professor Suresh Gyan Vihar University, Jaipur Rajasthan

He spoke about Sustainable Urban Planning: Challenges and Solutions.

He also talked about Global trends in urbanization, reasons of urbanization, Urban sprawl Vs. Urban growth, concept of Urban studies, Geospatial techniques like GIS, GNSS, RS and other emerging technology, benefits of Earth observations technology, land use and land cover change, land change modeling .

Ms. Indu Kumari, Campaign and Advocacy Manager, Indo Global Social Service Society (IGSSS)

She discussed about Creating Community Partnership for Conservation through Traditional Handicraft & Handloom Livelihoods.

She discussed about Forests, Crafts and Culture, Forests Vs Community Wellbeing, Wildlife Dependent Vulnerable Communities, Challenges and Outcomes, **Case Studies on Creating Community Partnership for Conservation through Traditional Handicraft & Handloom Livelihoods, Bodo weaves handloom, Handloom Training with support of step scheme, Ministry of WCD, Moonj grass handicraft, Conserving Tibetan Antelope: People's Initiative for a sustainable alternative to 'Shahtoosh' in Kashmir Valley, Role of Technical and Research Institutes.**

She said that the co-relation of forest communities with nature for their livelihood, tradition, cultural practice, and ritual have been subject of intensive investigations and debate. Paradoxically, these communities typically face the challenge of meeting their developmental aspirations at the cost of the resources upon which their livelihood and sustenance depends. Their proximity to nature creates an increasing need for their contribution towards conservation which would also include sustainable community priorities and traditional ecological knowledge for a balanced approach.



**Ms. Binita Kumari, Research Associate, Central University, Jharkhand :**

She discussed about Conservation Strategies: Forest and Wildlife. She talked about recent advancement in Environment sustainability and conservation strategies, causes of Forest fire (natural and manmade causes), Types of forest fire (Ground, surface and crown fire and about fire control. Fire risk assessment and mapping. Multi-Criteria Decision Analysis (MCDA) for Forest fire risk mapping. She said that forest fire and wildlife is a natural disaster and are larger fire which often start in wild land area and majority time it is uncontrolled.

**Ms Taruna Idnani, Manager - Corporate Actions , Council of Business Sustainability, TERI :**

**She discussed about** Environmental Sustainability. She gave an introduction about Climate Finance. She also explained about the Climate Finance in India, Public Climate Finance- Budgetary Support, Budgetary Support at Subnational Level, Subsidies and Market Mechanisms, Clean Development Mechanism, International Aid from Multilateral and Bilateral Sources, Role of Private Sector And Corporates.

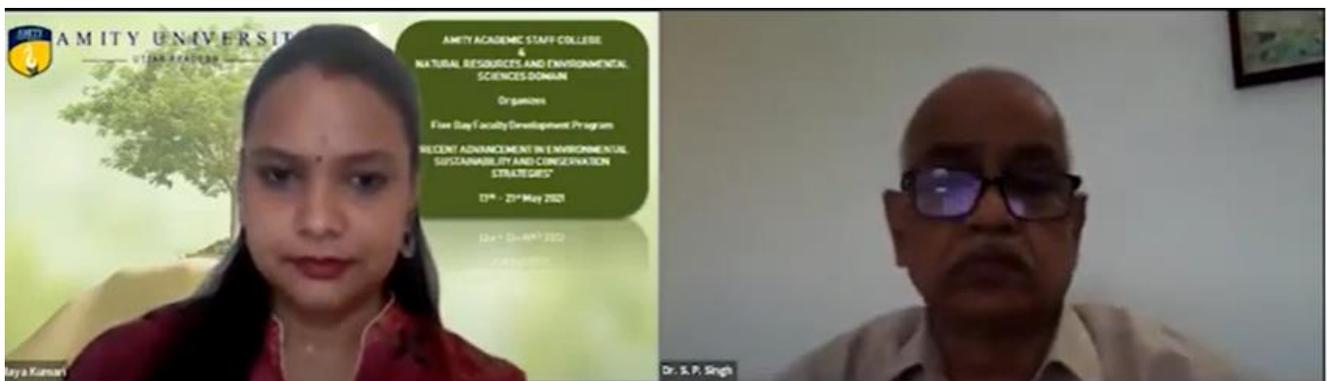
Way forward:

- Finance is a critical enabler for climate change action.
- India is achieving its goals under the Paris Agreement by investing in various schemes aligned with its NDC, like Clean India Mission, National Smart Grid Mission, Atal Mission for Rejuvenation and Urban Transformation etc.
- Readiness activities can support India to use scarce public funds to attract private climate finance.
- India could develop new, transformative ideas with a high mitigation or adaptation potential, and use GCF financing to unlock a range of domestic financing and implementation capacity around such efforts.
- India mustn't lose this opportunity to establish itself as a sustainable finance leader not only

to address sustainability and resilience challenges, but also to tap into the 1 trillion dollars in global capital committed to responsible investing.

**Ms. Manisha, Marketing Analyst, Surge Systems India Pvt Ltd :**

She talked about Medicinal plant cultivation in Indian farming system. She said that India has 15 Agroclimatic zones, 17,000 to 18,000 types of blooming plants in which 6000-7000 are evaluated to have therapeutic properties. The use of these medicinal plants is found in numerous Indian societies and is archived in Indian systems of medication, for example, Ayurveda, Siddha, Unani, Swa-rigpa, and Homeopathy. Around 960 types of medicinal plants are assessed to be in trade of which 178 species have yearly consumption levels of more than 100 metric tones.



She also discussed about agriculture in India, Medicinal Plant Cultivation in India, Reason for Medicinal Plant Cultivation, Opportunities for Medicinal Plant Cultivation, **The most beneficial therapeutic yields in India, Aid provided by Govt., aim and objectives of National Medicinal Plant Board, Prioritized list of Medicinal Plants for cultivation under Scheme of NMPB, Voluntary Certification Scheme for Medicinal Plants.** According to the Traditional Treatment Health Centre, 25 significant medicinal plants are always in full demand.

She also gave a video presentation on the subject.

**Comparing of sessions and Concluding Remarks of Third day of FDP was done by Dr. Maya Kumari (Programme Coordinator) Assistant Professor-II, Amity School of Natural Resources and Sustainable Development , Amity University, Uttar Pradesh, India.**

**Vote of Thanks was presented by Dr. Lolita Pradhan, Assistant Professor, Amity School of Natural Resources and Sustainable Development , Amity University, Uttar Pradesh, India.**

Day 4 – 20<sup>th</sup> May 2021  
Recording Link: <https://youtu.be/HTvOctixLKQ>

May 20, 2021

PLENARY SESSION – VI & VIII

10:30AM – 4:30 PM

VENUE: Through the online platform: [Zoom](#)

Opening remarks of the fourth day of FDP was given by Dr. Randeep Singh, Assistant Professor, and he also talked about the theme of the fourth day of FDP.

**Dr. N. P. S. Chauhan , Director, Amity Institute of Forestry and Wildlife, Amity University  
Uttar Pradesh**

He talked about Human wildlife conflict and mitigation strategy. Identify problem species, Nature of problem, Quantification of data, knowledge of control methods/techniques. Control decision should not be independent. Objectives should be co-operative with each other management responsibilities. Input of accurate data. Determining needs depend on ecological, social, political , administrative, economic and impact on other wildlife. Control methods : biological control.

**Dr. Kailash Chandra, Ph.D. , Ex-Director of Zoological Survey of India**

*He talked about Conservation and Management of threatened species. He discussed about what is Biodiversity. Biodiversity is a precious global asset. He also talked about sustainable development goal, he said that three SDP 13:climate action, 14:life below water and 15:life on land is very much related with the biodiversity conservation and those SDP are to be achieved by 2030. He also talked about mega diversity country, ecosystem in India, status of biodiversity in India, Species distribution modeling and IUCN Red list categories.*

**Mr. Arpit Deomurari, Spatial Ecologist, WWF**

He talked about future of Environment Sustainability; Artificial intelligence and Machine Learning. He also discussed about conservation-from reactive to proactive, what is artificial intelligence?, what is machine learning, when do we use machine learning? , types of learning, application of machine learning, animal population and distribution, automatic detection of poachers and wildlife with UAVs and conservation support data.

**Dr. Mukesh Thakur, Scientist, Zoological Survey of India**

He spoke about Environment Sustainability using Molecular Technology. He said that there are currently between 1.5 to 2 million described species. He discussed from IUCN red list version that It is estimated that number may represent as little as half of the true number of species. He also discussed about an internal Id system for all animals. Can DNA barcoding help? and discussed about e-DNA barcoding. What is environmental DNA(e-DNA). Biodiversity hotspot in India.

**Dr. Upamanyu Hore, Assistant Professor, Amity Institute of Forestry and Wildlife, Amity University**

He talked about Understanding Wetland Resources as ecosystem services: Perspectives from valuation. He gave an example from a paper “the value of the world’s ecosystem services and natural capital. The global ecosystem’s source and sink functions have limited capacity to support the economic subsystem. He also talked about What are ecosystem services?, Economic values of environmental assets, valuing ecosystem services, what are wetlands? , valuation framework.

**Dr. Murali Krishna Chatakonda , Assistant Professor-I, Amity Institute of Forestry and Wildlife, Amity University**

He spoke about Funding and research opportunities in the field of ecology and conservation. He presented two papers: ecology in broad-what we hear more often and what we hear less often.

He discussed that how we identify the gap areas for opportunity building? By doing systemic funding, understanding and consider the research problems under several lenses. Understanding research priority, being creative and realistic. How to find funding agencies?

Comparing of sessions of fourth day of FDP was done by Dr. Randeep Singh, *Assistant Professor-III, Amity Institute of Forestry and Wildlife, Amity University*

Concluding remarks were given by Dr. N. P. S. Chauhan, *Director, Amity Institute of Forestry and Wildlife*

Vote of Thanks was presented by Dr. Randeep Singh, *Assistant Professor-III, Amity Institute of Forestry and Wildlife, Amity University*

Day 5 – 21<sup>st</sup> May 2021

Recording Link: <https://youtu.be/ZfHXsodP4JM>

May 21, 2021

PLENARY SESSION –IX & X

10:30AM – 3:00 PM

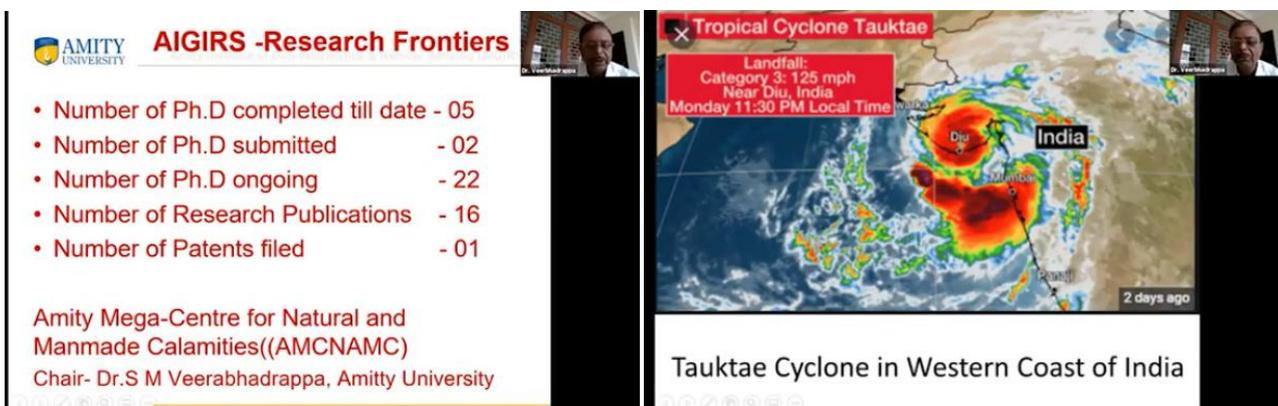
VENUE: Through the online platform: [Zoom](#)

Opening remarks of the fourth day of FDP was given by Dr. Anuj Kulshreshtra, Assistant Professor, and he also talked about the theme of the fifth day of FDP.



Dr. S.M. Veerbhadrapa , Acting Director, Amity Institute of Geoinformatics and Remote Sensing, Amity University Uttar Pradesh

He gave a brief introduction of the institute along with its vision and several endeavours. He further explained about the Amity Mega – Centre for Natural and Manmade calamities.



**AMITY UNIVERSITY AIGIRS -Research Frontiers**

- Number of Ph.D completed till date - 05
- Number of Ph.D submitted - 02
- Number of Ph.D ongoing - 22
- Number of Research Publications - 16
- Number of Patents filed - 01

Amity Mega-Centre for Natural and Manmade Calamities((AMCNAMC)  
Chair- Dr.S M Veerabhadrappa, Amity University

**Tropical Cyclone Tauktae**  
Landfall: Category 3: 125 mph  
Near Diu, India  
Monday 11:30 PM Local Time

Tauktae Cyclone in Western Coast of India

Next speaker of the session was Prof. Rajeshwari Jaglan, professor, geography department,

Kurukshetra University.

Five – Day Faculty Development Program  
On  
"RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRATEGIES"

- Ph.D. on "The Spatial Organisation of Health Care Facilities in Rural Haryana: An Inquiry into its Availability and Utilisation" from Jawaharlal Nehru University, New Delhi (1994)
- Prof. Jaglan has a teaching and research experience of 28 years and has completed research project on Epidemiological Transition in conjugation with Epidemiological Transition for the state of Haryana.
- Her area of specialization includes Capacity Building in Geospatial Technologies, Land Resource Policies, Agriculture and Expanding Urban-Industrial Spaces with major focus on Natural Resource Management and Socio Economic Development.
- She has over 20 and more publications in National and International Journals of Repute with SCI indexing

**Prof. (Dr.) RAJESHWARI JAGLAN**  
Professor  
Geography Department, Kurukshetra University, Kurukshetra, Haryana.

She delivered a lecture on "Applications of Geospatial Technologies in Urban Planning and Management". He explained the status of urban sprawl in India and the utilization of geospatial technology in the management of sustainable urban growth.

**Why should we use Geospatial Technology for Urban & Regional Planning ?**

1. Wealth of information
2. Advantages of digital data
3. Urban and regional information extraction
4. Data integration..

**Reflectance Curve**

% Reflectance

Wavelength (microns)

Water, Concrete/Urban Development, Vegetation

**REQUIREMENTS FOR URBAN MAPPING**

- **Spatial Resolution:** higher spatial resolution desirable as most of urban areas are densely built and features are comparatively small in size.
  - Minimum of four pixels within an object to identify (one-half the width of the smallest dimension)
  - Role of shape, size, texture, orientation, pattern, shadow, association, etc.
  - Land use vs. land cover.
- **Spectral Resolution:** Multispectral data enhances ability to discern features but interpreter's intervention is must to discriminate among various urban features.
  - Hyperspectral data to distinguish urban features
- **Temporal Resolution:** e.g., land use transformations, urban sprawl, change in socio-economic characteristics.
- **Radiometric Resolution:** enhances capability to distinguish features and interpretation

AMITY UNIVERSITY IQAC

AMITY ACADEMIC STAFF COLLEGE & NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES DOMAIN

Organized

Five Day Faculty Development Program on

RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRATEGIES

17th - 21st May 2021

Dr. Anuj Kulkarni

Dr. Sushil Kumar Chaturvedi

Next speaker of the day was Dr. Sudhir Kumar Chaturvedi from UPES, Dehradun, India. He enlightened the participants about the applications of “Synthetic Aperture RADAR (SAR)”. He started from explaining the principle of RADAR and SAR. He further elaborated on future SAR system concepts.

**PRINCIPLE OF RADAR AND SAR**

**Future SAR System Concepts**

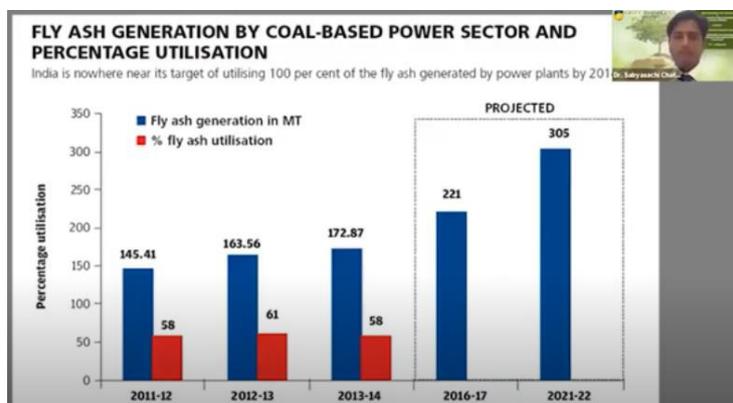
LEO Satellites	Geostationary Illuminator + LEO Receivers	MEO Satellites
<ul style="list-style-type: none"> <li>Short revisit times by multiple SAR satellites</li> <li>Conventional technique with low risk</li> </ul>	<ul style="list-style-type: none"> <li>Constant illumination with geostationary transmitter</li> <li>Signal reception by passive micro-satellites</li> </ul>	<ul style="list-style-type: none"> <li>Huge simultaneous access area</li> <li>Multiple revisits per day with one satellite</li> </ul>

Next panelist was Dr. Sabyasachi Chattopadhyay, Assistant Professor, AIGIRS. His deliberation was on power plants and society. He talked about the India’s total primary energy consumption and associated health impacts of the power plants. He also put insights on fly ash generation by coal based power sector and percentage utilization.

**Five – Day Faculty Development Program**  
On  
"RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRATEGIES"

**Dr. Sabyasachi Chattopadhyay**  
Assistant Professor  
Amity Institute of Geoformatics and Remote Sensing, Amity University, Uttar Pradesh

**Power plants and society**  
Sabyasachi Chattopadhyay, PhD  
Assistant Professor – I  
Amity University Uttar Pradesh  
Goldschmidt Global Ambassador





Next speaker of the day was Dr. Gaurav Pandey, UPES, Dehradun, India. His topic was “Gas Hydrates: Innovative technology in the era of clean energy storage and carbon dioxide sequestration”. He quoted that IEA calls this century to be “golden era for natural gas”. He further briefed about the gas hydrates, its structure, application and significance. He also elaborated the advantages of SNG technology.

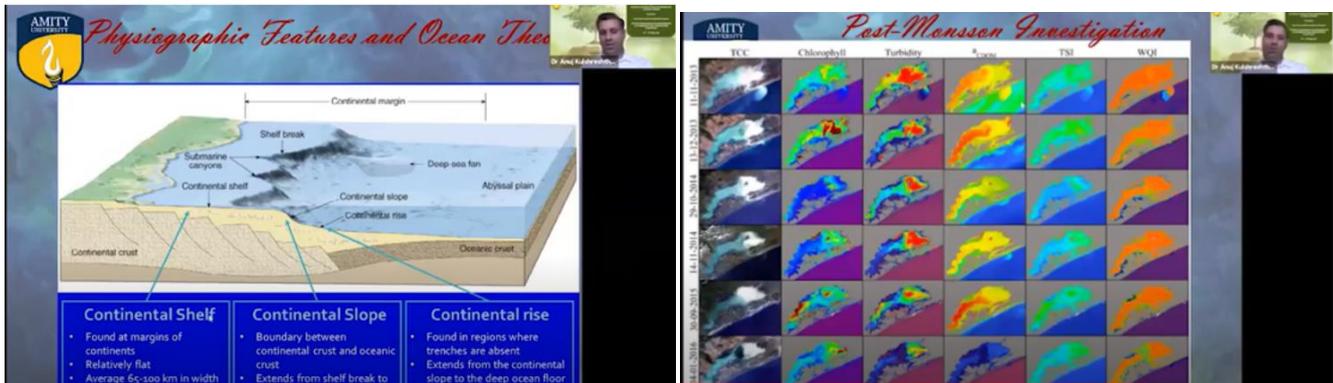
The last speaker of the day was Dr. Anuj Kulshreshtha, Assistant Professor, AIGIRS. He talked about the “Monitoring and Assessment of water quality for optically complex waters using satellite data”.

**Five – Day Faculty Development Program**  
On  
**“RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRAT**

**Dr. ANUJ KULSHRESHTHA**  
Assistant Professor  
Amity Institute of Geospatial and

- MS (By Research) and Ph.D. in Satellite Oceanography under dual integrated programme from Department of Ocean Engineering, IIT Madras (2018).
- Dr. Kulshreshtha is a Joint faculty at Amity Institute of Marine Science and Technology and joined Amity University in the year 2019.
- His area of specialization majorly focuses on Development of bio-optical algorithm, atmospheric correction techniques, ocean color remote sensing, prediction of water quality based on optical remote sensing, Machine Learning Algorithm.
- Currently, he is working on predicting the variability in water quality trends for Arabian Sea and its implication to climatic oscillations
- Reviewer for Journal of the Indian Society of Remote Sensing, IEEE Transactions on Geoscience and Remote Sensing and has h-Index of 4

He started with the genesis of earth and the evolution of life in oceans. He further elaborated the physiographic features of ocean. Then he moved to geospatial technology for oceans.



With this we ended our last plenary session of this FDP.

May 21, 2021 VALEDICTORY FUNCTION 03:00AM - 4:15 PM  
**VENUE: Through the online platform: [Zoom](#)**

The opening remarks and the welcome address of the valedictory session was given by **Dr. Shivangi Somvanshi** with the blessings of Hon'ble Founder President Sir, Hon'ble Chancellor Sir and Hon'ble Vice Chancellor. Moderator of the session was **Dr. Maya Kumari**.



**Dr. Carmen Z. Lamagna, Vice Chancellor, American International University, Bangladesh.**

He is the Guest of Honor. He thanked and express his gratitude to Hon'ble Vice Chancellor and team of FDP.

**Five – Day Faculty Development Program**  
On  
**“RECENT ADVANCEMENT IN ENVIRONMENTAL SUSTAINABILITY AND CONSERVATION STRATEGIES”**

**Dr. Carmen Z. Lamagna**  
Vice Chancellor  
Vice Chancellor, American International University- Bangladesh

- Dr. Carmen is Honorable Vice Chancellor, American International University-Bangladesh (AIUB) from 1997 to present.
- Dr. Carmen Z. Lamagna earned her Bachelor of Science in Chemical Engineering from Adamson University, Manila in 1978, passed the licensure examination for Chemical Engineers on the same year, obtained her Masters degrees from the Philippines and a Doctoral degree from California.
- Under her guidance, the University, from its inception has earned eminences as a higher seat of quality education in Bangladesh and abroad within a short period of its establishment in 1995.
- Dr. Lamagna’s achievements as an educator and manager may be gleaned from the positions she has in prestigious international bodies.
- Dr. Lamagna was one of the awardees in the 2006 Presidential Award for Overseas Filipinos.
- Dr. Carmen Z. Lamagna, was selected as top 100 women of the world under the education category by the International Alliance for Women (TIAW) for 2012.

She gave a brief introduction on the role of the academia in collaboration for global sustainable development. He further talked about the strategic linkages of AIUB.

**Collaborations for Global Sustainable Development: ROLE OF ACADEMIA**

DR. CARMEN Z. LAMAGNA, VICE CHANCELLOR  
AMERICAN INTERNATIONAL UNIVERSITY – BANGLADESH (AIUB)

21<sup>st</sup> May 2021  
AMITY UNIVERSITY, UTTAR PRADESH

**BUSINESS AS USUAL BUT... WITH A DIFFERENCE!**

**AIUB STRATEGIC LINKAGES**

#	NAME OF ORGANIZATION	COUNTRY
1	BJIT Limited	Bangladesh
2	Bangladesh Cricket Board	Bangladesh
3	Food and Agriculture Organization [UN]	Italy
5	United Hospital Limited	Bangladesh
6	International Finance Corporation	United States of America
7	Microsoft Corporation, CISCO	United States of America
8	DCCI	Bangladesh
9	Bangladesh Cricket Board	Bangladesh
10	Business Initiative Leading Development	Bangladesh
11	Grameenphone IT Limited	Norway
12	Lanka Bangla Finance Limited	Bangladesh
13	The Westin Dhaka	United States of America
14	Independent Newspaper	Bangladesh
15	Maasranga Television	Bangladesh
16	Pi Labs Bangladesh Ltd.	Bangladesh
17	SGS Bangladesh Ltd.	Switzerland
18	National Shooting Federation - Bangladesh	Bangladesh
19	Ethics Advanced Technology Limited	Bangladesh
20	TNT Express	Netherlands
21	Banglalink Digital Communications Ltd.	Malta
22	Galesia Hotel & Resort Ltd.	Bangladesh
23	Grameenphone Ltd.	Norway
24	Habitat for Humanity	United States of America

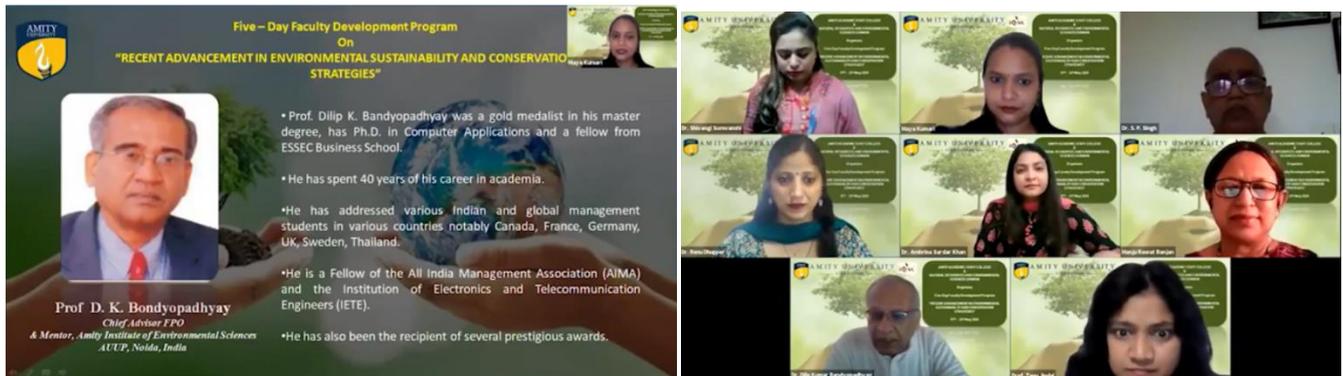
and more...

**Prof. D. K. Bandyopadhyay, Chief Advisor FPO / Chairman, Amity Law School, Mentor, Amity Institute of Environmental Sciences, Amity University Uttar Pradesh.**

He congratulated for the success of FDP. He described about the key message of this FDP given to all attendees:

1. Countries need to deliver on their existing commitments to save 1 billion hectares of degraded land and make similar commitments for marine and coastal areas.
2. The massive economic growth of recent decades has come at the cost of ecological health now how do you really take care of that.
3. Ecosystem management is needed on a large scale in order to achieve the sustainable development agenda that is most important thing.
4. How do you really develop that ecosystem management and that you know with careful planning restoring 50 percent of converted lands while stopping further conversion of natural ecosystem would avoid 60 percent of expected species extinctions that mean the biodiversity conservation is what we are talking about.
5. Achieving successful SDG at scale will require deep changes and that those deep changes which includes adaptive inclusive wealth as a more accurate measures of economic progress this will rest on the widespread introduction of natural capital accounting. The second important message that goes that when taking action at food waste making more efficient use of agricultural land and encouraging a shift to a more plant-based diet expanding awareness of the importance of healthy ecosystem throughout our educational systems.
6. Everyone has a role to play in this novel venture that's most important thing and how do you really involve everybody because decadent ecosystem restoration aims to catalyze global movement among local communities, activists, and women, youth engineers in indigenous groups, private companies, financial investor, research and government at all levels. The beauty of this is that it conveys a message of action and hope. It can happen at any scale whether a backyard plot, a city park, a river valley, a national forest or a globally threatened ecosystem this means that everyone can get involved that's most important thing.

7. Achieving the aims of the U.N decade will require action by many and we won't talking about it government to ensure that government recovery plans incorporate significant allocation of ecosystem restoration as a central component of to delivering a green sustainable and fair recovery currently only about 18 percent of the recovery stimulus plants can be characterized green.



**Prof. Tanu Jindal, Group Additional Pro- Vice Chancellor (R&D), Amity University Uttar Pradesh**

She appreciated and congratulated all the FDP team and also gave good wishes. She said what we have learnt through various speakers we are able to impart to our students and future generations so that they can implement the same in their leads, in their future career and other areas of their life. She also thanked all the eminent speakers which have been part of this five days FDP.

She also said sustainability cannot be achieved without using green technologies and many green technologies have been discussed and i would like to look forward as students and faculty discover innovate patent in a new technologies for the future use so that carbon footprint can be reduced.



At the end of session, the customary duty of presenting a vote of thanks was done by Dr. Shivangi

Somvanshi (Assistant Professor, AIES) and simultaneously the feedback was circulated to all the participants.

