



# SUMMARY REPORT

# 4<sup>th</sup> INTERNATIONAL CONFERENCE ON SUSTAINABILITY EDUCATION 2022



**Coordination and Editing:**

Dr. Ram Boojh, ICSE Convenor

**Compilation and Writing:**

Ms. Kavya Singh Yadav, Mr. Shrawan Kumar, Ms. Upma Garg, Ms. Himani Kantiwal, Ms. Mamta Giri, Ms. Suman Kumari and Dr. Bhagyashree Keshewani, with contributions from session chairs, rapporteurs and partners.

**Media Support:**

Ms. Niddhi Singh

**Layout and Design:**

Pahi Gangwar

**International Conference on Sustainability Education (ICSE) 2022**

ICSE Secretariat,  
301, Antriksh Bhawan, 22 K.G. Marg, New Delhi - 110001, India  
Phone: +91 11 4985 4523, 4943 3823  
Website: [www.icse2019.org](http://www.icse2019.org) | [www.mobiusf.org](http://www.mobiusf.org)  
Email: [icse@mobiusf.org](mailto:icse@mobiusf.org) | [info@mobiusf.org](mailto:info@mobiusf.org)  
Phone: 011-4985-4523 | 011-4943-3823

May 2023

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# **4th International Conference on Sustainability Education**

**September 9 & 10, 2022**

***SUMMARY REPORT***

*theme:*  
**BUILDING  
CONNECTIONS &  
PARTNERSHIPS FOR  
A SUSTAINABLE  
FUTURE**

**SCOPE Convention Centre,  
Lodhi Road, New Delhi, India**

- 01 Special Messages
- 03 Words of Wisdom
- 08 Pre-conference: Youth Conclave

## **Day 1**

- 14 Inaugural Ceremony
  
- 17 Plenary 1 India@75: Lessons for a Sustainable World
- 20 Plenary 2 Agenda Sustainability: The Road to Population Stabilization
  
- 26 Session 1 Compulsory Environmental Education in India: Lessons Learnt and Way Forward
- 31 Session 2 Green Jobs for Youth
- 39 Session 3 Oceans are Us - Ocean Literacy Programme
- 44 Session 4 Technology for Conservation Education
- 48 Session 5 Eco-Restoration for People, Nature and Climate

## **Day 2**

- 52 Plenary 3 'Mission Prakriti' Launch by WWF India  
'Youth for Earth' Award Ceremony
  
- 61 Session 6 Promoting Innovations to Achieve Sustainable Development
- 64 Session 7 Celebrations of Net Zero Carbon and Impact Journey: GCP Schools ki Zubaani
- 68 Session 8 ChimpanZoo - Chimpanzee Research, Education and Outreach Programme
- 74 Session 9 Demystifying the Myths and Realities of ESG
- 80 Session 10 Abu Dhabi's Environmental Education Programmes - Oral Presentations
- 85 Session 11 Oral Presentations of Contributed Papers
- 87 Session 12 Sustainability Educators Conclave
- 90 Session 13 Handprint Methodology - Experience Sharing
- 94 Session 14 Higher Education
- 101 Session 15 Digital Solutions to Sustainability Education
- 105 Session 16 Sustainability with Circularity
- 109 Session 17 Importance of Education for Achieving India's Carbon Neutral 2070 Target
  
- 113 Concluding and Valedictory Ceremony
- 115 Post-conference: Natural Trail to Sunder Nursery
- 116 Poster Presentations
- 118 Stalls and Exhibitions
- 119 Cultural Evening
- 120 Sustainability Practices
- 121 ICSE 2022 Special Edition
- 128 Highlights by Young Reporters for The Environment
- 132 Press Coverage
- 133 Digital Campaign Report
- 136 Program Schedule
- 143 Partners
- 144 About Mobius Foundation



## Special Message

### MR. PRADIP BURMAN CHAIRMAN, MOBIUS FOUNDATION

We all are familiar with the concept of sustainable development which aims to find the right balance between meeting the current needs without compromising the needs of future generations. Currently, we are facing the biggest global crisis of unsustainability. The longer we continue with unsustainable development, the more severe will be the consequences. It becomes very important now to mitigate the damage we caused. We must be aware of what lies ahead of us. Time has now come to act positively and adopt the sustainable way of living. This will surely restore the strong resilience power of planet earth to a balanced state. Our blueprint remains the Sustainable Development Goals (SDGs) for which education can play the most important role.

The International Conference on Sustainability Education (ICSE) is an initiative to create ambassadors and advocates of sustainability for a better future. Since the first ICSE-2019, the tone of discussion and dialogues with clear objective of delivering outcome of awareness, education and catching the success stories related to environment concerns have been set.

The 4th (ICSE) on 9-10 September 2022 on the theme **'Building Connections and Partnerships for a Sustainable Future'** provided opportunities to work together, make connections and strengthen partnerships for a promising tomorrow.

## Preface

A photograph of Dr. Ram Boojh, the convener of ICSE 2022, speaking at a podium. He is wearing a white shirt and a green vest. The podium has a sign that says 'SCOPE'. In the background, there is a red 'FIRE EXIT' sign with an arrow pointing left.

### **DR. RAM BOOJH CONVENER, ICSE 2022 CEO, MOBIUS FOUNDATION**

The 4th International Conference on Sustainability Education (ICSE 2022) is in continuation of our initiative to promote and strengthen sustainability education in India, South Asia and globally through building partnerships and alliances involving all the concerned stakeholders. We had an overwhelming response of the first ICSE held in New Delhi in September 2019, with participation of some of the world's leading environment and sustainability organizations, educators and leaders. The 2nd and 3rd versions of ICSE were subsequently organized virtually using innovative digital platforms because of corona pandemic. During these three years of our journey on the road to sustainability education, ICSE set a distinct trend for discussions and dialogues on diverse and broad perspectives of sustainability education among professionals, educators, leaders, policy makers, teachers and practitioners from across the disciplines and professions. This has resulted in a professional network which is a driving force for ICSE and keeps all of us moving towards the path of sustainability. We also look forward to this network for guidance and motivation on a continued basis.

The 4th ICSE was held on September 9-10, 2022 in a hybrid mode with in-person as well as virtual participation. This provided the attendees and delegates an exciting experience of a seamless online and offline interaction and dialogue. The theme of ICSE 2022 "Building Connections and Partnerships for Sustainable Future" emphasized on the potential opportunities for collaboration and networking for strengthening the professionalism in sustainability education. This overarching theme echoed during animated discussions and deliberations in all the five plenaries and 17 thematic tracks of the conference. The pre-conference Youth Conclave organized on 8th September witnessed the enthusiastic voices of youth from across the globe calling for urgent climate action. The energy and enthusiasm of youth was at full display in the Youth For Earth Campaign 2022 session as well.

I would like to express my sincere thanks and gratitude to all the distinguished participants, delegates, panelists, speakers and partners for their valuable support and contribution in making the conference a success. Mr Pradip Burman, Chairman Mobius Foundation has always been a great support of the ICSE. His vision and insight have been exemplary in the smooth organisation of the conference on such a scale. The enthusiastic guidance and support of Mr Kartikeya Sarabhai as Chairman of the Technical Advisory Committee (TAC) has been most valuable. I am thankful to Mr Praveen Garg, Advisor, Mobius Foundation for his crucial advice and support for the success of the conference. Finally, I would like to thank and appreciate all my colleagues in Mobius Foundatio and its sister organisations for their unstinted support in making the conference a success.



**DISTINGUISHED DIGNITARIES**



**“Once the young people understand the problems and are empowered to take actions, they can truly make a difference.”**

Dr. Jane Goodall, Founder, Jane Goodall Institute, Roots and Shoots Institute, UN Messenger of Peace



**“Any single person or organization cannot bring change by themselves. Collective efforts are the need of hour towards the journey of sustainability.”**

Mr. Pradip Burman, Chairman, Mobius Foundation



**“Looking at the Environmental Education’s origin in India, we have to understand that it is deeply rooted in our culture. ‘Education for All’, underscored the importance of education in transition towards a sustainable future”.**

Mr. Kartikeya Sarabhai, Founder and Director, Centre for Environment Education (CEE), India



**“There is a need for transforming rote based current education (shiksha) system into knowledge (vidya).”**

Mr. Rajendra Singh, The Waterman of India, Ramon Magsaysay Awardee, Chairman, Tarun Bharat Sangh



**“There is an urgent need to integrate and include climate change, and sustainability education in our core curriculum across all levels, and in all disciplines of learning”.**

Ms. Neerja Sekhar, Additional Secretary, Ministry of Information and Broadcasting, Govt. of India



**“Transforming education from formal knowledge system to sustainability education is the key to creating an ecologically conscious society.”**

Dr. Ram Boojh, CEO, Mobius Foundation



**“The children must learn environmental education not only as a subject, but as a practice.”**

Dr. Vibha Dhawan, Director General, The Energy and Resource Institute (TERI), New Delhi, India



**“Sustainability education relates to the hopes and challenges of humanity and holds high importance in achieving SDG goals on education”**

Mr. Benno Boer, Representative, UNESCO, New Delhi





**“Environment is not a small subject and it is evolving every day. There are two sets of things to be complied by industries, one is mandatory as per law and second one is the own vision of industries towards environment.”**

Mr Praveen Garg, IAS (R), Advisor, Mobius Foundation



**“Males are at the margins of ESD/EE and it is important to bridge this gap, acknowledge males and bring them in environmental education and climate literacy.”**

Dr. Pramod Sharma, Senior Director, Foundation for Environment Education (FEE), Denmark



**“Whether we look at nature from an environmental, cultural or religious point of view, it is our responsibility and clearly, it is in our interest to respect the nature.”**

Ms Huma Masood, Senior Gender Specialist, UNESCO, New Delhi



**“If there is any subject which has more myths and misconceptions, it is the population issues and the consumption v/s population debate.”**

Dr. Poonam Muttreja, Executive Director, Population Foundation of India (PFI), India



**“I heard a lot of stories of hope and I think hope is crucial to make a change. When we bring these three things together- mindset, hope and passion, we are going to make a change.”**

Patrick Van Veen, Chair Emeritus Global Board, Jane Goodall Institute



**“We need to focus on steps that can help us remind our responsibilities and involve nature in our daily lives so that every small step we take, may take us closer to nature for a better sustainable future.”**

Mr. Anil Gupta, Founder of Honey Bee Network, Ahmedabad



**“We have to find solutions which are not only economically viable, but non-toxic and not posing a health-hazard as well”**

Dr Vimal Katiyar, IIT, Guwahati



**“Behavioural change is the key to how we are going to change environment and nobody better understands it than the young people.”**

Mr Aditya Pundir, Country Manager, Climate Project Foundation, South-Asia and India



**“Although there is a paradigm shift due to digital evolutions like AI, blockchain technology, simulation model, virtual labs, but at the same time, there are the areas where internet is not available.”**

Prof. Sachi Shah, Director, SOITS, IGNOU



**“NEP 2020 has given the liberty and also the basic approach that we are not talking about the program-based education but we are bringing the course-based education. That is a major shift in our education system.”**

Prof. G D Sharma, V. C., USTM, Shillong



**“Thank you Mobius Foundation once again for inviting me and making me more aware about the environment, socially and sustainability. Certainly once I go back to my campus I will be more aware and help students become more sensitive and carry forward the learning from the conference.”**

Prof Prithvi Yadav, V. C., Symbiosis University



**“There are several things we need to think about like how we prioritize environmental education and make it integral part of our education system as much as people emphasize on learning science or maths.”**

Ms. Chong Shimray, Assistant Professor,  
Dept. of Education in Science and Mathematics, NCERT, India



**“The important link is education. Unless we internalize certain values, all of these acronyms like ESG, CSR etc. will become a fad and they will come and go according to fashion. These are values which need to be taught & internalized as a child.”**

Prof. Meena Raghunathan, ESG Expert



## PRE-CONFERENCE : YOUTH CONCLAVE

### Background

In terms of the environment, youth have unique concerns as well as unique duties. Young people are disproportionately affected by a variety of environmental dangers and hazards. Because adolescents are more aware of these challenges and have a higher stake in long-term sustainability, the environment is one area where they should lead. They will participate in new types of action and activism in order to produce effective responses to environmental concerns. Our actions today determine the quality of our future. What we make today will be faced by the generations to come. Are you ready to face a changing climate? Let's discuss how to get there! We are living in a time when the climate is rapidly changing – forcing us to reflect on the impact of humans and the challenges we have to deal with.

Climate Change is a reality that we need to adapt to while working together to limit global warming to 1.5°C by 2030. We are running out of time. We urgently need quality climate change education to face these changes. The Youth4Ocean is a project involving young people between 16 and 30 years old who want to act for the ocean through ocean advocacy at diverse conferences and events at national and international levels (e.g. COP26, United Nations Ocean Conference) and through youth projects in the field. The aim is to share good practice and develop joint ocean literacy initiatives for ocean protection and a more sustainable use of ocean resources, to enhance civil engagement and activism of young Europeans towards the governance of seas, oceans and coastal areas; empower them to become informed ocean advocates and agents of change who take an active role in the ocean preservation through different activities at local, regional, national or international level, and promote the development of digital services and innovative communication tools to disseminate ocean science to all.

The 'Youth for Earth' is a campaign for youth to showcase their environment-friendly actions and tell the world that change starts with them. It is about work on the ground that results in a change for a more sustainable planet. Participants work on environmental campaigns at their campus/community. Winning change-makers will be invited and awarded cash prizes during the International Conference on Sustainability Education (ICSE).

## Objectives

The objective of the Youth Conclave was to facilitate the engagement of youth. Youth may interact with people from other nations to improve their talents by exchanging data or starting new businesses, as well as study and develop new skills.

## Moderator

Ms. Kristina Madsen, Coordinator of Education, FEE, Copenhagen, Denmark

Ms. Kavya Singh Yadav, Environmentalist, Mobius Foundation, New Delhi, India

## Speakers

- Special address by Ms. Michelle Dilhara, ICSE Youth Ambassador, Author, Environmentalist and Philanthropist, TV and Film Star, Sri Lanka
- Ms Masaki Morimoto, President, Eco-Committee, Nagoya Int. School, Japan
- Ms. Aziezah Essop, Head, Dept of Social Sciences, St. Andrew's Girls School, Johannesburg, South Africa
- Ms. Erafasyra Man, Chairwoman, Eco-campus Committee, Cambodia
- Ms. Prarthana Bhattacharya, Team Representative for Project Ikhtiyaar, Youth for Earth, Enactus Miranda House, New Delhi, India
- Ms. Iwona Gin, World Ocean Network, Nausicaa, France

## Summary of the Presentations and Discussions

The session began with the **opening remarks by Dr. Pramod Sharma, Sr. Director, FEE, Copenhagen, Denmark** where he set the tone of the session by highlighting that according to the UNESCO latest report more than 70 countries around the world do not have adequate quality climate change education or content and that means that the youth are not being adequately prepared to face the challenges which are already there in terms of climate change and the actions that they can take and give them hope to mitigate and adapt to the challenges that are in front of them. He shared the campaign details "Running out of time" that they have launched in February. This is the world's first non- stop running relay across 18 countries starting from Glasgow, Scotland and ending in Sharm el-Sheikh in Egyptian to support the quality climate change education.

**Ms. Michelle Dilhara** emphasized that rather than changing the minds of the elders it's better to change the minds of the youth because they are the future leaders of the country and the globe. The youth are so energetic and they try to do new stuff but most of them don't have the climate literacy as climate change and global warming are devastating issues in and around the world. We have to encourage the youth and educate them on climate change as they will be the future innovators and the future engineers.

**"If we have to change the world or we have to do something new, we should start it from ourselves. Let's make this change together."**

**Ms. Masaki Morimoto** shared that what can young people do in their schools and communities to help mitigate climate change. She shared the activities that they have been implementing in the school and challenges faced on ground in the campus. She shared the initiatives done by her own school and mentioned about the Global Issues Network (GIN) Club members who are actively working for the environmental issues. There is Eco Committee which acts as a driving human committee that orients clubs and communities, members to ultimately create a more sustainable campus. They have done climate strikes in order to ensure that there was more awareness amongst the community including students, teachers and administrators.

**“You or your students, perhaps your children act on the small curiosity that they have towards climate change and to not be pressured into thinking that you must make large action in order to make impact because even that small action you take does make a change and finding what works for you is what is key.”**

**Ms. Aziezah Essop**, stressed on the idea of integrating sustainability into the curriculum has occurred relatively seamlessly as it is part of the curriculum requirements. She shared the model of her school that focus on developing habits in the students that will encourage an acute awareness of the impact of their actions on the environment and throughout implementation inculcating a deeper awareness of the individual and collective behavioral changes that are needed for a more sustainable world. They have chosen to utilize a hands-on approach with focus on active engagement to develop a conscience that drives constructive change through learned habits. The action-learning approach has created a context in which pupils can develop their skills and gain the confidence needed to make a difference. Recycling, Eco tourism, Composting, planting the indigenous plants, ecofriendly buildings, rooftop vegetable garden, rain water harvesting, reducing usage of paper, Green house eco tunnel are the sustainable initiatives followed in the school.

**“If we fail the environment, it places the future of our planet and humankind at great risk. We want education to play a role that will inadvertently contribute meaningfully in mitigating the real and present risk to our very existence.”**

**Ms. Erafasyra Man** shared about green skills required to become a future professional in tourism industry. The desired skills are values, commitment, knowledge in tourism to contribute to the environment, knowledge in Sustainable Development Goals (SDGs), Understand the pollution and CO<sub>2</sub> emissions and know how to solve those problems. She talked about an initiative in which single use plastic bags are collected from the hotels, restaurants, NGOs, schools that are not in use anymore and turn them into handcrafted products.

One needs to let yourself have an open-mind and not just focus on the environment part but to have a contribution towards climate change to raise awareness and to help the community.

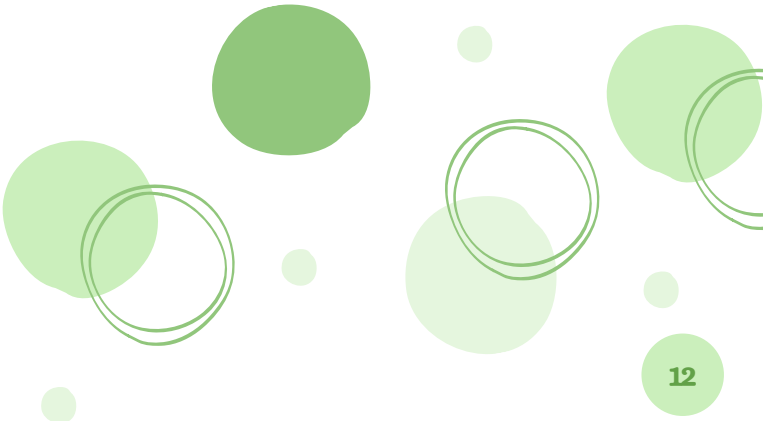


**Ms. Prarthana Bhattacharya**, team representative of Project Ikhtiyar and winner of Youth for Earth 2022 campaign, shared the details about the project. It began in 2017 by members of the Enactus society of Miranda House which supports social entrepreneurship. The members identified the community in the urban slum near Lok Kalyan Setu near the ITO Ghats in the banks of river Yamuna. There they have found an overgrowth of water hyacinth which is the world's worst water weed listed by the United Nations Environment Program and river Yamuna is blanketed by this invasive menace. We have local vendors and daily wage workers who have no access to clean water and sanitation so they came up with this project idea where the society contributed towards sustainability along with uplifting the livelihood of the community. The project members along with the help of community plugged the water hyacinth from the banks of river Yamuna and it converts into manure which is rich in nutrients and pathogen free. The project aims towards building a sustainable future and focuses on Sustainable Development Goal 6 that is clean water and sanitation which includes the participation of local community in the water and sanitation planning.

**Ms. Iwona Gin** talked about climate change and sustainability education from the ocean lenses because ocean and climate are very closely linked and ocean is the fundamental part of the climate system. It has a major influence on weather and on climate and it also offers opportunities for nations to mitigate and adapt to climate change. In 2019 started education towards sustainability of the marine natural environment where youths were assembled who are passionate about the sustainability of the world ocean and these young people became the founding member of this forum. They have developed the young ocean advocate program where the project addresses ocean conservation entrepreneurship towards blue economy educational activities. There are also a series of online webinars which are called meet a blue expert during which young people can learn how to organize a crowdsourcing campaign and explain how to raise funds for a project. They are trying to do is to take the youth advocacy one step forward because so far there have been regular youth side events and diverse international events but they seem to run in parallel track to other events so indeed now recently many young people are invited by senior experts to give their point of view in panel discussions and roundtables.

**“The intergenerational dialogue is essential to sustainability and it is crucial to facilitate communication between different generations of stakeholders with diverse cultural backgrounds and interests and the climate change challenge and the ocean require that all generations to work together to ensure a resilient environment and the ocean that provides for all life and allows a well-being of our societies today and in the years to come.”**

**Dr. Ram Boojh, CEO, Mobius Foundation and ICSE Convener** shared his concluding remarks by thanking the team for curating such a wonderful session. Though we are running out of time against whatever is happening on climate change but it is inspiring to see the enthusiasm and motivation of young people. It's hard to stop climate change and that's the reason youth is so agitated and is at the forefront of all the sustainability movement. There is need to do more on this; it's not so hard unless we do it. The ideas and solutions and expertise that are brought on table need to be disseminated at a wider scale. We need to have this dialogue ongoing the inter-generational and what you can amplify young people's voices as they have great multiplying impact and engage more young people on climate action.





# Day 1

**09.09.2022**

## **Inaugural Ceremony**

### **Plenary Session 1**

**India@75: Lessons for a Sustainable World**

### **Plenary Session 2**

**Agenda Sustainability: The Road to Population Stabilisation-  
How to reach the unreached?**

## **Thematic Sessions**

- 1. Compulsory Environmental Education in India: Lessons Learnt and Way Forward**
- 2. Green Jobs for Youth**
- 3. Oceans are Us - Ocean Literacy Programme**
- 4. Technology for Conservation Education**
- 5. Eco-Restoration for People, Nature and Climate**



## INAUGURAL CEREMONY



The 4th ICSE 2022 opened with the formal lighting of the ceremonial lamp by chief guest, Mr. Rajendra Singh, Waterman of India, Mr Pradip Burman, Chairman and Dr Ram Boojh, CEO of the Mobius Foundation and all the dignitaries present on the dais. Following this, students from the DAV school, Dwarka, Delhi, performed Saraswati Vandana.

Ms. Michelle Dilhara, the ICSE youth ambassador and conference master of ceremony (MC), formally welcomed the dignitaries on the dias, partner organisations, delegates, and all participants. She invited Chairman Mobius Foundation (MF) to deliver his welcome address. Mr. Burman emphasized the need for action to protect the planet by working together to curb climate change. He narrated the brief journey of the ICSE since 2019 and how it has contributed to the dissemination of information and knowledge about sustainability education and practices linked to it. He further elaborated on the importance of partnership and connections required to mitigate the environmental and ecological damage.

In her video message, Ms Jane Goodall, Founder, Jane Goodall Institute and Roots and Shoots Institute appreciated the concept of organising ICSE for highlighting the areas where change is required and educating for sustainable way of living. She said that “to carry on with the idea that there can be unlimited economic growth on the planet with finite natural resources is simply not sustainable”. Underlining the importance of youths, she appreciated the “Youth for Earth” programme of MF which has been conceptualised to showcase innovation, creativity and efforts of young people towards making a better planet for all living things.....Young people once they understand the problems and are empowered to take action, can truly make a difference”.



Speaking as guest of Honour, Mr. Benno Boer, representative, UNESCO, New Delhi, conveyed the greetings of Mr. Eric Falt, Director UNESCO, New Delhi. Linking ICSE to the concept of disseminating information related to sustainability, he said that sustainability education relates to the hopes and challenges of humanity. Further he affirmed that sustainability education holds high importance in achieving SDG on education and is also a means to many other goals specially goals related to water and climate change. He underlined the importance of partnerships to nurture the full potential of sustainability education.

Mr. Kartikeya Sarabhai, Founder and Director, CEE in his keynote address highlighted the role of the decade long mission 'Education for All', which underscored the importance of education in transition towards a sustainable future. Analysing the current challenges of developing countries particularly India to maintain a balance between economic growth and sustainability, he compared it with resource utilisation pattern of western countries, which started from post industrial revolution era and was never seen as impact posing factor on planet in the past. Recalling the journey of changing priorities to deal with environmental issues, he stressed upon the collective action from all segments of societies to reach the objectives laid down in SDGs. "Change in lifestyle is not something which need to be complied by developing countries, but a huge change of lifestyle needs to be done by the developed countries".

In his special address (recorded video message), Mr. Norman Christopher, Executive Director of the Office of Sustainability Practices, USA stressed upon the need for strategic partnership between civil societies, leading business bodies, universities and Government institutions. He remarked that Media agencies working in the field of sustainability can play important role in creating long term sustainability values among youth.

Mr. Richard McDonald, Founder and Executive Chairperson, Futures Group, Switzerland, in his special address laid down the importance of attentive listening. He enthused the audience by connecting with them through an engaging exercise of retention. He mentioned five principles i.e developing a robust learning place and culture in school, changing behaviour by developing mindsets, prioritizing values through intercultural exchange, inter-generational conversations to get the future leaders with loud and relevant voice and realising the power of setting examples in changing behaviours.

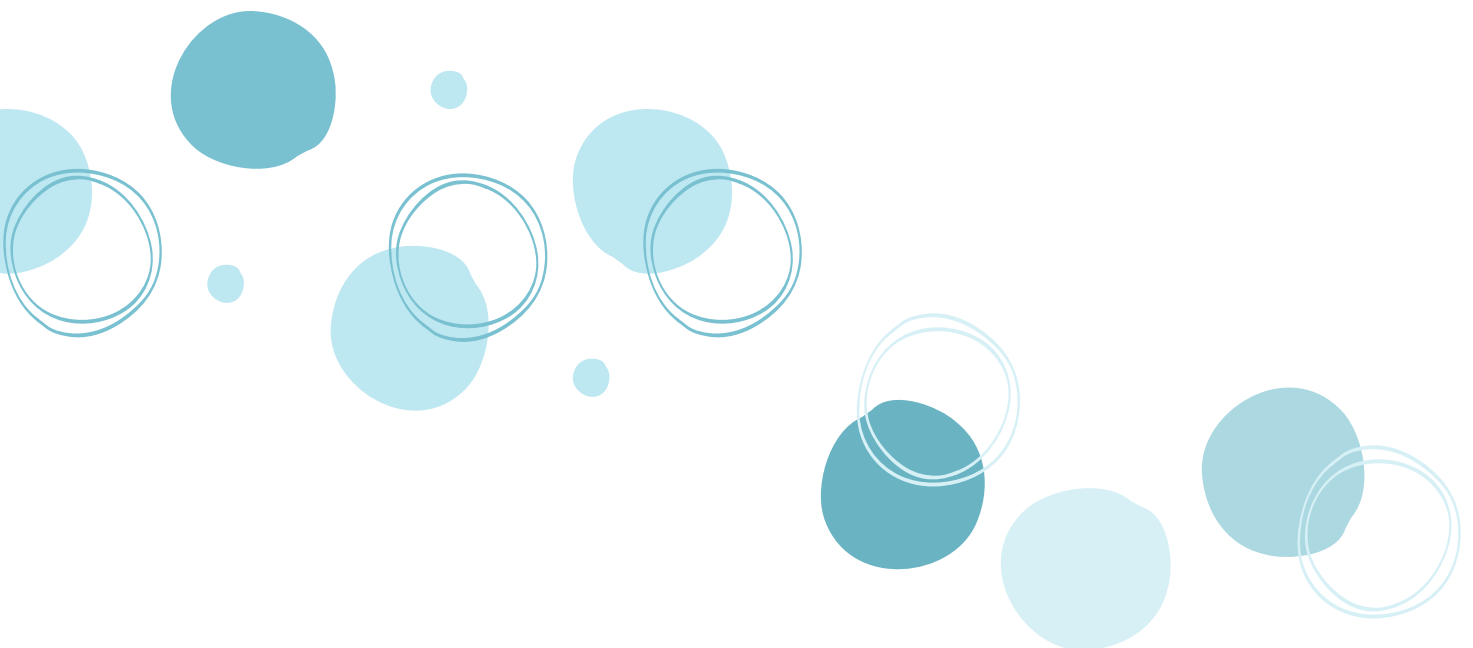


Speaking as Chief Guest, Mr Rajendra Singh, the Water Man of India and Magsaysay awardee, stressed upon the need for transforming rote based current education system into a knowledge (vidya)-based education system. Reflecting on the objectives of current education system, he placed it as faulty system which do not empower us to look for our common future as it lags the component of experiential learning, wisdom and skilling. He further remarked that in order to transit the current approach of education system towards a knowledge system which promotes

sustainability practices, we need to embed the components of realisation and internalisation to it.

Mr. Pradip Burman distributed mementoes to dignitaries present on the dais.

Dr. Ram Boojh, CEO, Mobius Foundation in his concluding remarks, thanked all the participants and distinguished guests. He highlighted the importance of the theme of the ICSE 2022 to build networks, connections and partnerships for promoting sustainability education. He further stressed that the ICSE with its past 3 versions of experience has emerged as a broad-based platform for networking and partnership for sustainability. He thanked all the partners for their continued support to the conference as part of the ICSE journey by building a broad-based alliance of the community of educators, practitioners and policy makers across the globe to promote sustainability education and learning. He also mentioned the pre-conference Youth Conclave on 8th September where young sustainability professionals showcased their action projects that have created positive change in various regions of the world. He also informed that youth power will be again displayed in a special plenary of Youth4Earth campaign winners and young professionals. He further elaborated that the conference has been planned to have deliberations in 5 plenary sessions, 15 parallel sessions and a session for contributed papers and posters from diverse fields and professions. The Conference also has display of exhibits, stalls, projects and practices by partners and delegates to showcase their work towards sustainability.





Plenary  
Session  
01

**INDIA@75 : LESSONS FOR  
A SUSTAINABLE WORLD**

**Environmental Education processes support and champions Education for Sustainable Development. Such education processes must be relevant, responsive and accountable.**

-The Ahmedabad Declaration 2007

India is celebrating 75 years of independence as Azadi ka Amrit Mahotsav starting from 12 Mar 2021 to 15 August 2023 to commemorate the evolutionary journey of its people, culture and achievements. The themes announced for celebration focusing on Ideas@75, Resolve@75, Actions@75 and Achievements@75 well connect with the overall theme of ICSE Conference 2022.

Historically and culturally concern and care for the environment is engraved in our social values and attitudes which has taught us to live in harmony with environment. The Indian constitution captured much of these deep-rooted values and further strengthened the by giving responsibility to its citizens to protect the environment. In India, EE has emerged as an integral part of the education system at all levels. It is considered as an important curricular concern.

The landmark decision given by the Supreme Court of India in 2003 for making EE compulsory at all levels of education has set an example globally. Several ministries and organizations have worked towards the implementation of EE in formal and non-formal system.

**Chair**

Shri Kartikeya Sarabhai, Founder and Director, CEE, India

**Chief Guest**

Ms. Neerja Sekhar, Additional Secretary, Ministry of Information and Broadcasting, Govt. of India

Moderator: Dr. Ram Boojh, Mobius Foundation

## Speakers

- Mr Chetan Solanki, Member of National Focus Group on Environmental Education, IIT Bombay
- Dr. Vibha Dhawan, Director General, TERI, New Delhi
- Ms. Huma Masood, Gender Specialist, UNESCO, New Delhi
- Dr. Pramod Sharma, Senior Director, Foundation for Environment Education (FEE), Denmark
- Dr. Sunita Faryak, Head, DESM, NCERT, New Delhi

## Summary of the Presentation and Discussion

**Dr. Ram Boojh, CEO, Mobius Foundation** extended a warm welcome to all the participants who joined for the session physically as well as online, Chief Guest Ms. Neerja Sekhar, panelists and expert speaker for the session. He invited **Mr. Kartikeya Sarabhai, CEE** to formally start the proceedings of the session.

**Mr. Kartikeya Sarabhai**, with his presentation titled “EE in India: A Timeline” shed light on the evolution of Environmental education in India as he took on a journey back to the foundation and origin of EE in India, how it is linked with Indian Cultural roots, traditions and how we inherited sustainability through our learnings and tend to forget them with time.



**Ms. Neerja Sekhar**, speaking as the chief guest of the session shared her thoughts on the achievements of the country during 75 years since independence specifically in the area of sustainability. She emphasized that the learning and teachings should be oriented towards building a sustainable future. She mentioned how the Covid period has made nature, sustainability and sustainable development as part of our active vocabulary. She also stressed that the National Educational policy (NEP) of 2020 has sought to align with the aspirations of the 21st century India.

She further elaborated that according to UNESCO data, less than half of national curriculum networks of 100 countries reviewed had no reference to climate change, the rest mentioned climate change in documents but the depth of inclusion was very minimal. This shows that there is an urgent need to integrate and include environmental education in our core curriculum across all levels and in all disciplines of learnings. It should also be woven into our policies and programmes and we should all work together to boost sustainability in education.

“The more we take care of our mother, Planet Earth, the longer we can have life on earth”.

**Mr. Chetan Solanki**, spoke on the need to bring sustainability education within our curriculum and to passing it on to future generation. He emphasized that environmental education must become the part of our culture so that we don't have to exert any extra effort to behave in sustainable manner. He concluded with pointing out that every individual consume energy and contributes to the climate change; therefore, it has to be the duty of every individual to live sustainably on this planet. Quoting Mahatma Gandhi, he stated that 'to ensure sustainability we need not follow the idea of the mass production but the production by masses.'

**Dr. Vibha Dhawan**, Director General, TERI highlighted the fact that sustainability should be taught at all levels. Children must learn environmental education not only as a subject, but as a practice. They must value to admire nature, should indulge in outdoor activities. It is not just teachers, not the curriculum but it is the responsibility of each one of us first to set an example by ourselves.

**Ms. Huma Masood**, stressed upon the fact that almost all the nations of the world would need to work together to create this ideal world we are talking about. It is important that we should work collectively to nurture our planet and ensure a sustainable future for all. The focus of this initiative is partnership and unprecedented pandemic has made us realize the importance of working together as the key to sustainable and resilient recovery.

**Mr. Pramod Sharma**, spoke on the status of environmental literacy in India and presented its key findings before the attendees. He shared the impact of behavior, disposition and elements of culture and values learning that came from family and their impact on education. Sharing the data, he stated that gender gap is a huge challenge before us, there is about a 65-35 or 60-40 percentage of gap present as there are more female students doing better in environmental education compared to males.

**Dr. Sunita Farkya**, shared her experience as a teacher and emphasized on the need for better pedagogical innovations that must bring attitudinal change at community levels.

### **Outcomes and Recommendations**

- There is a need to impart culture driven environment education among the young generation.
- Children must spend their time exploring the nature, be outside to learn environment education the right way.
- The gender gap in environment literacy should be addressed.



**Plenary  
Session  
02**

**AGENDA SUSTAINABILITY:  
THE ROAD TO POPULATION STABILISATION -  
HOW TO REACH THE UNREACHED?**

**Background**

Rising human numbers put tremendous pressure on earth’s finite resources. The world is struggling to meet the sustainability challenges of climate change, biodiversity loss and environmental pollution and degradation. Human population growth and overconsumption are at the root of our most pressing environmental problems, including the species extinction, habitat loss and climate change. The nomenclature of population stabilization/limiting programmes has changed over the years, from family planning involving strict birth control measures to family welfare emphasizing on the benefits of health, wellbeing and social stability of well-planned small families. These changes also indicate the importance of non-coercive approaches such as education, outreach and empowerment for limiting the family size.

The important issue of population overgrowth and overconsumption remains side-lined, when we look at many dialogues, discussions and actions being taken for the mitigation of climatic disaster as a result of anthropogenic activities. To bridge this gap, Mobius Foundation has taken up the project Aakar for population stabilisation for creating awareness, capacity building and facilitation program in high TFR districts of Uttar Pradesh. Another yearlong awareness media campaign “Mission Sustainability: Population Vs Planet” and “Shambhala Jaroori Hai: Jansankhya banam Prakriti” at WION and ZEE channels respectively was also taken up to cover diverse issues like migration, housing, food, waste etc through series of episodes.

Mobius Foundation organised a special plenary session titled "Road to Population Stabilization: How to Reach the Unreached," in partnership with Population Foundation of India (PFI), the United Nations Population Fund (UNFPA), the David and Lucile Packard Foundation, Population Balance, and the Population Media Centre.

**Objectives**

The overall objective of the session was to deliberate upon the linkage between population stabilization and sustainability concerns, status and trends of population growth and the role of education, empowerment and awareness in population stabilization and sustainability of the planet.



## Summary

This special plenary session addressed critical issues relating to its theme. Panellists in the discussion discussed many social challenges such as differences between coercive measures and alternatives based on rights and dignity, and the relationship between population growth and excessive consumerism. The key topics of overall discussion included pronatalism, alarmism, the North-South divide's perspective on overconsumption and population growth, education and empowerment of women/young girls, role of entertainment media in family planning, role of advanced IT based tools for capacity building and reaching the unreached, enabling females to make free choices, unmet needs, quality education, quality health services, reproductive health awareness, and so on. The conclusion that emerged from this debate is that we should address reproductive health and family planning concerns for the most marginalised and disadvantaged individuals from the position of their rights and dignity, while also empowering them to make intelligent and informed decisions. The group also made several important suggestions on the themes covered.



## Session Setup

Hybrid mode (2 speakers joined Online) - A panel discussion with three rounds of questions (General Statement-Follow up Question-Recommendations). Session was Chaired by Mr. Pradip Burman, Chairman Mobius Foundation and moderated by Dr. Ram Boojh, Former UNESCO official and CEO Mobius Foundation.

## Welcome Address

Mr. Pradip Burman noted that the world's entire devastation has a lot to do with rising population and emphasised the significance of bringing up and debating the population problem on all platforms of environment and sustainability conversations. He emphasised the issue of a poorly interconnected concept of population overgrowth with consumption across platforms, expressing concerns about environmental difficulties. He also highlighted the foundation's ongoing population-related projects such as AAKAR and the Media Campaign "Mission Sustainability: Population Vs Planet" on WION and ZEE, and recommended population stabilisation as the 18th SDG objective to focus on the core cause of climatic disaster.

## Panel discussion

Session's moderator, Dr. Boojh emphasised on the link between underdevelopment and population growth, and each panellist was invited to make a general statement about their work, followed by specific questions based on the individual responses, and finally recommendations from each panellist.



**Ms. Nandita Bajaj,**  
**Executive Director,**  
**Population Balance, USA**

Her area of work includes advocacy for reproductive autonomy and educating to understand the implications of reproductive coersions, understanding the silencing of population debate and dismissal of overpopulation issues. Through her works she challenges pronatalism.

*Follow-up question:*

**How is Pro Natalism connected to overpopulation and reproductive injustice? There is also an increase in alarmism about depopulation, how is this manifesting globally and why is there such a taboo on topic of overpopulation and what can be done to counter it?**

*Answer by Ms. Nandita Bajaj:*

**Pronatalism** is a social bias towards having children and it's an idea that parenthood and having children should be the central focus of every person's adult life, it assumes that all women want to be and must become mothers. Social pressures, religious agendas to misinformation about use of contraceptives, media glorification of families with children etc. plays collective role in overpopulation and reproductive injustice.

**Alarmism** is rampant in many western countries and it is turning into depopulation panic and families are being incentivised to produce more babies. **Social norms play tremendous part in setting the fertility level in particular country. Empowering women and educating them are the key to neutralise pronatalism.**

*Statement from moderator:*

Several existing social norms, stresses a woman who cannot bear child. These norms are impacting the whole family planning scenario. Apart from North- South divide there are divisions like urban, rural, cast and religion within the social norms that are playing the part in overpopulation and reproductive injustice.



**Ms. Andrea Wojnar,**  
**Resident Representative, United Nations Population Fund (UNFPA), India**  
**and Country Director, Bhutan**

She strives to empower women and girls, addressing delicate themes including sexual and reproductive health through a variety of initiatives. UNFPA collaborates closely with numerous

government organisations, including the Ministries of Health, Women's and Children's Development, Panchayati Raj, Social Justice and Empowerment, and Youth affairs and sports. It also focuses on areas with high rates of poverty and TFR as well as those with poor indicators in the areas of health and education.

*Follow-up question:*

**What according to you are the priorities of UNFPA in the context of leaving no one behind, especially when we look towards youth and young girls?**

*Answer by Ms. Andrea Wojnar:*

Every time when we disregard the most vulnerable we are actually widening the gap and increasing the inequalities. 'Leave no one behind' sounds passive but saying 'push no one behind' brings a sense of accountability. Given the choice, women would generally choose fewer babies, healthy lives to achieve their full human potential. UNFPA is trying to reach most vulnerable by partnering with tech agencies and expanding the platform to educate, aware and capacitate the youths of far flung areas. Education, Empowerment and Employability are the other areas in the priority list of UNFPA.

*Statement from moderator:*

Technology is a great leveller, but it is also a huge divide in terms of access to it. However, the idea of replacing 'Leave no one behind' with 'No one should be pushed behind' is appreciable.



**Mr. Anand Sinha,**  
Country Advisor,  
David and Lucile Packard Foundation (DLPF), India

The DLPF works in the area of reproductive health, oceans and climate change. It views its reproductive health programme from the perspective of rights and justice and holds that family planning strategies such as the distribution of contraceptives, provision of safe abortion, sterilisation, etc. cannot be seen as an action for population stabilisation without considering the rights and justice of marginalised communities.

*Follow-up question:*

**What complementary role do you perceive for different stakeholders in addressing the vast regional disparities as shown in the data of National Health Survey-5 released last year?**

*Answer by Mr. Anand Sinha:*

Data shown in NFHS-5 tells us that India is in two very different stages, wherein majority of states have reached replacement level fertility rate (2.1) but there are many states mostly from northern and eastern India like Bihar, Uttar Pradesh, Madhya Pradesh, Orissa and Rajasthan still have fertility rates above replacement level, which indicates about weak health, governance and community system being offered to comparatively poorer and less enabled community. We need to be more systematic and sensitive to educate and inform the general public at large rather than cutting corners through coercive conversations due to unawareness about rights and choices. **Delivering the services of awareness and empowerment needs right mindset and needs to be looked at through the lens of rights, dignity and pressure free choices.** Mapping of

achievements/outcomes related to sterilizations, girl education, health services etc. need to be seen through the lens of quality and not quantity.

*Statement from moderator:*

Right Mindset is the key to deliver services of reproductive health, family planning, education and empowerment in right direction.



**Mr. William Ryerson,**  
**Founder Population Media Centre (PMC),**  
**USA**

His work realises the potential of entertainment media in addressing the issues related to reproductive health, women empowerment and shaping the family size.

*Follow-up question:*

**Planetary issues like consumption, energy use and climate change are playing the most important role in global discourse. What is the interlinkage between them and how they are linked with the overpopulation when population is not any specific goal in SDGs (Sustainable Development Goals).**

*Answer by Mr. William Ryerson:*

Leading cause of loss of biodiversity is expanding human habitation and expanding farming, which clearly indicates towards the need of addressing rural and urban issues. Entertainment media can address many issues like consumption, rights, status of women and girls, reforestation and deforestation, climate change adaptation and bushmeat consumption. Sustainable Planet with equal right should be our motto. **Entertainment media has the potential to touch the right spot through the emotional basis of role models performing positive/negative and transitional behaviours.**

*Statement from moderator:*

Empowering the people is the key.



**Ms. Poonam Muttreja,**  
**Executive Director,**  
**Population Foundation of India (PFI)**

PFI focusses on addressing the issue of women empowerment. It is important to reach the unreached as the issues persisting among disadvantage and marginalised communities tends to create demographic imbalances. Low or no education and lack of high-quality reproductive services in undeveloped areas are the biggest elements contributing to unchecked population growth.

*Follow-up question:*

**Many myths related to population issues are deeply ingrained in our socio-cultural religious**

## **ethos. How to address these myths in a very sensitive humane manner?**

*Answer by Ms. Poonam Muttreja:*

Population related issues carries many myths and misconception.

### **First myth – Women want lots of children**

10 % unmet needs for family planning indicates towards many pregnancies which would otherwise have been avoided, this unwanted addition results in many births with poor access to health and nutritional factors. Political leadership and privileged class of this country need to respond to the situation of this substantial 10 % unmet needs.

### **Second myth- Family planning related issues are the woman’s responsibility**

Biological capability of a women to bear child must be seen and respected as a most important contribution to the society instead of insensitively looking at them as breeding bodies. Family planning, use of contraceptive and care for the family is equally a man’s responsibility.

### **Recommendations**

Education is the magic pill and we must provide universal and free education to girls till graduation and beyond.

We must have universal access to family planning methods in a rights-based approach with proper counselling on usage and side effects of different contraception methods. Every woman should have access to all methods being used by developed nations.

We need to ensure more male participation in adapting family planning methods.

We need to look at our relationship with non-human world of nature in an eco-centric perspective rather than human supremacist perspective.

Problems must be seen through asset lens and not deficit lens. We need to think about people with perspective of their aspirations, abilities and their own choices.

Eight billion people with rights and choices offer infinite possibilities for us to survive and thrive and prosper through three “Es”- Empowerment, Education and Employment.

Using entertainment media particularly emotion-based entertainment media is a wonderful way to empower people and make them aware about the choices they have with them.

Public recognition to be given to writers and producers doing positive programming on the issues related to basic rights, girl’s education, reproductive health, sexuality etc.





## Thematic Session 01

### COMPULSORY ENVIRONMENTAL EDUCATION IN INDIA: LESSONS LEARNT & WAY FORWARD

#### Background

India is one of the few countries in the world where environmental education (EE) is compulsory at all levels of formal education. This was achieved through the efforts of the National Council for Education Research and Training (NCERT) in response to a Public Interest Litigation (PIL) regarding compulsory EE, filed by Shri M. C. Mehta in 1991 in the Honourable Supreme Court. India adopted the infusion approach to EE throughout the formal education system; serving students ages 6 – 18. The infusion approach entails incorporating EE into the existing curriculum of various subjects, as well as the development of project-based activities.

#### Objectives

The session objective was to reflect upon and discuss the experience of introduction of compulsory EE, its successes and failures, and suggest the way forward.

#### Moderator

Dr. Pramod Sharma, Senior Director of Education, FEE

#### Speakers

- Ms. Swarnima Luthra, Principal, ASN Senior Secondary School
- Ms. Sital Bisoyi, Teacher, Bal Bharti School
- Ms. Chong Shimray, Assistant Professor, Dept. of Education in Science and Mathematics, NCERT, India
- Dr. Vimal Katiyar, IIT, Guwahati
- Dr. B C Sabat, SEED
- Ms. Aarti, Wipro foundation

## Summary of the Presentations and Discussions

**Dr. Pramod Sharma** extended a warm welcome to the expert speakers and participants for joining the session. He shared the purpose of the session, how it was planned to understand what we have learned in the implementation process of Compulsory Environment Education from the last 18-20 years and what will be the recommendations we may anticipate in the future. To begin the session, he invited Dr. Chong Shimray and posed the question **“What has been achieved and what would be the recommendation in terms of the way forward?”**



**Dr. Chong Shimray** stated that after the order from honourable supreme court in 2003, NCERT adopted fundamentals so that the Environment Education could be implemented systematically. She said things were laid out very clear that how the states, boards and schools were going to follow infusion approach for Environmental Education. To emphasize the importance of implementation of Environmental Education, NCERT organize National Science Exhibition every year of which environment is also a theme. NCERT also came up with Project Books comprising local problems on which students could work. Similarly, the organization prepared a Teacher’s Handbook through which teachers can learn some core areas of environmental issues and could also work on projects.

She informed that the National Curriculum Framework 2022 will hopefully come out before the end of this year. She mentioned that the documents will guide us whether Environment Education would be a separate subject approach or we are still going to continue with the infusion approach, if it would be infusion how we are going to go about it.

In terms of way forward she said there are several other things that we really need to think about like how do we prioritize Environmental Education and how do we really make it an integral part of the education system, as people emphasize on science and maths learning so, how do we encourage them equally.

To take the session further, Mr. Pramod Sharma formally introduced Ms. Swarnima Luthra and posed the question **“How compulsory Environment Education has helped in achieving the intention of improving environmental literacy in schools and what in your opinion needs to be done.”**

**Ms. Swarnima Luthra** in response to this, said that schools have to take up the challenge and make a child aware right from the beginning. She shared that her school has taken this as a life skill approach. Her school vision, mission, core values and approach are integrated. It is mandatory for every stakeholder whether it is a teacher, parent, or support staff to get aware. She mentioned that while designing the planner of school, they keep in mind the present level of student, which level they need to take them further and how to integrate other things into the system so that each day would be a learning part for a teacher and the student. The key objectives that school has taken up are aware, connect, commit and transform. She said if we ignite students right from the beginning itself, we could transform their lives further. She suggested that by creating learning space, collaboration, bringing school culture and practices according to our needs, every school could really bring change in the mindset of each and every stakeholder. She concluded by saying **“let's all rise up and take up the challenge. It's only we who could bring change.”**

**Taking discussion from school level to classroom level, Dr. Pramod Sharma posed question to Ms. Sital Bisoyi. “What changes we have seen in the classrooms especially due to the new content? What more needs to be done to enable a teacher to make a reality in our execution systems”**

**Ms. Sital Bisoyi** shared her experience and said that she has seen a lot of difference. She said earlier environment was just a subject but now it is a way of life that children are understanding and becoming conscious about. She observed that children learn if we allow them to take decisions, explore, and engage in an activity. They create something. She said children are going forward and are taking care of the environment. She feels that our values and efforts are there in the right way. She emphasized that we should allow them to do all the things that they require. Only classroom teaching should not be restricted, it should be more and more outside learning and a more innovative approach.

Drawing quick outlines out of the deliberations of Ms. Sital Bisoyi, Dr. Pramod Sharma took the discussion to international level and posed a well-directed question to Ms Mita Nangia Goswami. **“What you have seen in India and things that have worked? What needs to be done when you compare things from different countries? What will be the recommendations if we look at from an Indian perspective?”**



**Ms Mita Nangia Goswami** shared that by giving environmental education a status of compulsory subject improved the non-formal component. It makes the pedagogy much richer by actually taking teachers and students out into the nature. She stated that these young people are learning to become agents of change. She recommended that it has to be a collaborative multiple subject integrated system. We cannot approach environment education just as a subject, it



should be in the cognitive realm and has to be a way of life. She stressed upon the need to build the capacity of our textbook writers and said **“we are continuously building capacities of every other stakeholder holder in the education ecosystem but I think we really need to focus on the capacities of those people who are actually writing these textbooks.”** She emphasized on the need of more traditional knowledge and intergenerational conversations. She further highlighted the curriculum for teacher training and mentioned that a teacher should be a certain kind of person that inspire and motivate students to become the change agents and that will bring out the transformation we are all seeking for.

In flow with the discussion, Dr. Pramod Sharma posed the question to Ms. Arti. **“What is your perspective and what has been the key learnings that you would like to share?”**

**Ms. Arti** shared her thoughts about indigenous knowledge, empathy, ethics and justice. She said that India had probably missed out to pick up indigenous knowledge and use it in the curriculum. She further said climate justice and empathy are the things that should definitely be a part of our system. She also emphasized on the need to make more resource available to teachers, provide hand-holding and some kind of guidance.

**Mr. Pramod Sharma** took the session from school front to higher education and posed the question to Dr. Vimal Katiyar. “What is your perspective of seeing Environmental Education being implemented in a higher education institution like IIT Guwahati? What is working and what further needs to be done?”

**Dr. Vimal Katiyar** reflected on the fact that when we go from school to college level, things vanish because at school level, the environmental education is a compulsory course but later at college level, there is no compulsion. He emphasized on the need to talk about environment and to connect it with the emotions. The sense of responsibility should not lie with the teacher only but also to the students. He said that the development of technology should be holistic and sustainable and for this, they had come up with the sustainable development course in their university, especially for undergraduates so that when they present new ideas and technologies, keep sustainability in mind. He further highlighted that India practices the most sustainable lifestyle as compared to western world and said: **“I think we have to teach our students the way our ancestors used to practice the sustainable lifestyle. If we bring those components in our modern education system, I think that will going to be a win-win situation.”**



In flow with the discussion Dr. Pramod Sharma poses the last question to Dr. B. C. Sabat. **“What is your perspective, concluding remarks and recommendations for the future?”**

**Dr. B. C. Sabat** shared his experience and programmes including integration of formal education with non-formal education, distribution of paper recycling units, collaboration with NGO’s, Teacher Training programmes and Earthian programmes. He raised the issue of schools for not allowing teachers and students for training. He further mentioned that many schools and colleges are there lack environmental faculties in the premises. He urges NCERT to take the lead and make it compulsory for the schools to permit students and teachers for training and nature walk in some of the government departments and organizations. He further highlighted that no one bother about environmental issues by saying that it is the work of government, but as a citizen, student, teacher or scientist, it is also our duty to do something on this.

### **Recommendations and Outcomes**

- Recommendation to prepare a road map for the next 25 years to deliver quality Environmental Education.
- Scale up education in different sectors and support nature-based solutions. Use the opportunities created by technology to train and monitor the progress.
- Demonstrate school as a hub for community change.





## Thematic Session

# 02

## GREEN JOBS FOR YOUTH

### Background

'Green jobs' refer to a class of jobs that directly have a positive impact on the planet, and contribute to the overall environmental welfare”, as mentioned by Prime Minister Narendra Modi during the World Environment Day, June 5, 2022.

The Skill Council for Green Jobs was launched by the Union government on October 1, 2015. The council aims to help manufacturers and other service providers in India’s green business’ sector to implement industry-led, collaborative skills to push the country on the path to truly realising the real potential and significance of green jobs.

According to the ILO, India moving to a green economy by the next decade would alone create about 3 million jobs in the renewable energy sector. The renewable energy sector created about 47,000 new jobs in 2017 accounting for a 12% increase in just the span of a year, they said. For India ‘Green jobs can prove immensely useful to the country with sectors like renewable energy, waste management, green transport and urban farming all having great potential to employ a trained workforce. An integrated, systematic approach, experts believe, is crucial to ensuring this.

Globally the Youth, Education and Advocacy Unit at UNEP has been engaged in supporting the green jobs agenda. In 2022 at COP27, ILO, UNICEF’s Generation Unlimited, and UNEP will launch the Green Jobs for Youth Pact. The aim is to work together with youth, employers’ and workers organizations, educators, private sector companies, and governments to create a new inclusive, sustainable and resilient recovery with young people’s interests, dreams and future at its heart. Building on existing efforts and joint lessons learned; the Pact is a unique new partnership for action to close the skills gap in developing countries, targeting climate vulnerable sectors, contributing to a systemic change harvesting benefits for climate, nature and society in a way that fosters more and better jobs for young people. It combines the comparative strengths of each of the three UN agencies to bring the skills and jobs, environment, and youth mandates under one integrated umbrella.

With India’s commitment towards green economy and a sustainable future, the proposed session on green jobs for youth, targeted youth and higher education mentors with aim to

highlight the prospects and employability for youth in the Green Jobs sector, showcase the efforts taken by various stakeholders and motivated youth to aspire and work towards building a sustainable and resilient world.

### **Objectives**

1. To Connect and network with different actors working towards the creation of green jobs – government/youth/private sector/academia
2. To deliver better knowledge of sectors and actors to support for the creation of green jobs in India.
3. Receive expressions of interest around joining and building out the Green Jobs for Youth Pact in India.

### **Summary of the Presentations and Discussions**

The thematic session on ‘Green Jobs for Youth’ was aimed to highlight the prospects and employability for youth in the Green Jobs sector, showcased the efforts taken by different stakeholders. Mr Thomas Stenstorm, Sr. Specialist Employment Intensive Investments, ILO presented a brief introduction to Green Jobs and Green Economy. He highlighted the works being done by ILO Green Jobs Programme towards environmentally sustainable and economic development. He helped the audience to understand the concept by defining major concepts and how they are related, and with an increased ability to cope with the challenge of climate change and scarce resource.

### **The session was divided into four panel discussions:**

#### **1. Green Jobs and Environmental Career - How aware and interested are our youth?**

The discussion on Green Jobs in environmental careers was moderated by Lakshayog. He led the session by setting the tone and describing the flow of the discussion. He presented the questions to respective panellist to understand the trend and awareness among youth towards green jobs.

#### **Ms. Sanjana Vij, Professor, Amity University**

##### Question 1

**In addition to traditional courses offered by your university, what specific environment-related or focused courses are you offering at Amity for students pursuing their undergraduate/master’s degrees?**

Ms Sanjana Vij, speaking on the different types of traditional courses being offered at the university, highlighted the contemporary courses ranging from M.Sc. marine Sciences, M.Sc. Environmental Health Sciences and Management, Masters of Environment and Sustainable Development, MTech. Environmental Engineering, M.Sc. in Renewable Energy and apart from these undergraduate and graduate courses. Not only these, university also offer PhD in climate change and ecological studies plus diplomas in climate change and mitigation, Disaster Management and Environmental Impact Assessment.

##### Question 2

**Since when are these courses being offered at Amity? What was the motivation behind launching the courses? And what has been the response of the students in terms of enrolment**

## over the years?

The courses at the Amity University are being offered since 2013 and keep on adding the relevant courses while keeping in mind the need of the program and objectives. The motivation behind these courses have been to develop an insight and compassion for environment in each and every student with respect to learning experiences but also to promote and foster creativity, innovation in academic delivery. In terms of response in enrolment, she expressed her concern as for today, there is a lack of general and specific awareness on sustainable development and new courses on environmental sciences.

### Question 3

**What has been the experience of the students graduating from these courses in terms of placements? Are students getting places in the related field of their study or opting for other career options? If yes, then why?**

Amity University has good placements and many of the students are today placed as technical professionals, environmental biologists, researchers and at universities nationally and internationally. She also mentioned that we are looking at the trend that green jobs postings are increasing eight percent annually over the last five years but finding great green talents with knowledge and skills to work in the field of green sector is still a big challenge.

### Ms Rao, Career Guidance Counsellor

#### Question 1

**Given your experience as a career guidance counsellor at your school, how interested do you find students are in taking up an environmental career? How often do students approach you for guidance on environment-related courses?**

Ms Rao, shared that even today the students doesn't know much about environmental studies as they don't have knowledge about the careers with a proper package within the sector. She stated that the students are more interested in traditional courses as they have seen their peers working within these sectors. The number of students who have come for guidance in env. Sector is very minimal and solely because of their personal interest to pursue a career in environment sector.

#### Question 2

**Given that Environmental issues and Climate change are one of the most pressing challenges confronting our society and are gaining currency across the world, in your view, what are the major inhibitions students face while thinking about environment-related careers or courses?**

There is a lack of knowledge in public domain, while looking for career in green sector, we don't find the proper type of knowledge about different careers and the students can't find the path to pursue those courses. Secondly, there is uncertainty of the career, job opportunities, kind of packages that comes with environmental careers.

#### Question 3

**Do you feel that as a counsellor, you are equipped with the required knowledge and resources about green jobs and focused environmental-related courses that are offered at the higher education levels?**

Ms Rao expressed that the guidance counsellor lacks the knowledge and resources to help the students understand the proper work path towards environmental sector jobs. We are trying to help them as much as with the knowledge available within the public domain only which is not sufficient to encourage a student towards green jobs.

**Prof. (Dr.) Rupa Agarwal, NIFT**

Question 1

**As we are aware that NIFT has now embarked on integrating sustainable fashion into its curriculum, which is a commendable and welcoming step. Can you share some insights about it?**

Ms Rupa Agarwal shared the perspective on how NIFT has embarked on integrating the sustainable fashion into its curriculum and how as being the part of most polluting industry, we must take the responsibility. NIFT offers several other courses which are design related, textile design, accessory design and design research and technology courses. Within all departments, we have sustainability courses with dedicated hours and credits but we still do not have titled courses with sustainability embedded within it. With dissertation it has been observed that many students are taking up the projects and a career choice integrated with the concept of sustainability.

Question 2

**What has been the response of the students to the newly introduced courses on sustainable fashion?**

The youth of today are very interested in sustainability, they might not know much about it as an area but they are very keen to learn about it. When the courses were initially started in 2008, the students did raise the concerns of placements and jobs offered with these sectors which was minimal in those years. Now the arena is open there are many jobs and our alumni have also begun their own start-ups, they are making a choice.

## **2. Green Jobs in India - What are the opportunities and gaps?**

The second discussion was facilitated by Ms Divya Dutt, Program Management Officer, UNEP and share the purpose and plan of the session. The session was focused to examine the green jobs scenario in India.

**Ms. Samah Elsayed, Program Officer, International Renewable Energy Agency** share her thoughts on rising potential of renewable energy sector today globally as well as in the specific context of India. We are already seeing a change happening and this is of course being reflected in the jobs numbers and about 12 million people globally were employed in the renewable energy sector. If we put in place the policies, investments and strategies this could create as many as 122 million jobs globally and in transformed energy sector to about 43 million jobs. In India, with job creation, we could see more than 4.5 million jobs created by 2030 and more than 6 million with renewable energy sector. It is vital to students to learn more about the basic renewable knowledge, understanding because they will be the consumers of the future, voters of the future and the decision makers of the future.

**Mr. Ajnav Deka, Head Talent Management, TATA Power** spoke on the industrial transition within energy sector and on skilling people from an ecosystem point of view. He talked about the existing gaps within the industry currently, academic institutions and what the government

needs to do in terms of the policy to ensure that these gaps are addressed through the right skill and training certification. He also mentioned the difference between educated population and employable population which is very high and how TATA Power is working through CSR programs while addressing the clean energy demand, connecting global environment issues to local, gender-gaps, empowering youth to overcome the difference.

**Dr. Suprava Patnaik, ATAL Bihari Vajpayee Institute of Good Governance and Policy Analysis**, presented her thoughts on the kind of opportunities that lie within the forestry, natural resource management and eco-agriculture. When we talk about the jobs in renewable energy, the quantum of jobs the growth, trend is very clear-cut and the potential within these sectors. But within the natural resource management (NRM), forestry and ecological agricultural there are very little green job opportunities. There are indeed lot of jobs and opportunities that are coming up but it is very slow in NRM and such sectors. She shared a few examples and the diversity of skills and jobs that needs to build as we move towards the net-zero targets.

**Mr. Deepak, Associate Vice President of Skill Council for Green Jobs** highlighted the works of Skill Council with idea to have skilled manpower and workforce for Indian industry with evolving requirement of the industries. The larger thematic focus is not only the renewable sector when it comes to the green jobs but the definition to green jobs is continuously expanding as new sectors and technology interventions are coming out. Adding to Dr Suprava statements, he mentioned that not much have been mapped out in the core NRM sector but we must not leave it behind.

**Dr. G D Sharma, Vice Chancellor, University of Science and Technology, Meghalaya** emphasized on the impact of NEP 2020 that would define the role of universities systems towards the need of better education and increasing the rate of skilled employment. He mentioned that most of the universities were concentrating on the knowledge courses rather on the application of knowledge. With NEP, now we are not talking about the program-based education but bringing the shift to course-based education. It is liberal and increasing the opportunities to students and better roles within their own sectors. We need the education which is required for the societal development and by the market.



### 3. The Green Jobs for Youth Pact - How is the UN supporting the agenda?

The third panel discussion was focused on Green Jobs for Youth Pact and was facilitated by Mr Sam Barrett, UNEP Chief of Youth Education Advocacy. The session began by short video by UNEP on green jobs for Youth and a video message by **Neomi Metais, Youth, Education and Advocacy Officer, UNEP.**

**Ms Neomi Metais** shared her views on Green Jobs for Youth Pact. She said that “As we move towards the sustainability, we believe that every job has the potential to be a green job however serious investments in upskilling and reskilling are needed.” In order to reap the employability benefits and avoid the future generations loss to unemployment and as well as to tackle the triple planetary crisis.

**Mr. Sam Barratt, Chief of the Youth, Education and Advocacy, UNEP** welcomed and introduced all the panellist and shared the purpose of the session and how it is planned to discuss the key points to extend and accelerate the creation of green skills for green jobs. To initiate the discussion, he posed the given below question to Ms Shruti Kapoor, UNICEF Generation Unlimited.

**What is it that youth really want in terms of green jobs and what support they need to get them?**

**Ms. Shruti Kapoor** in answer to this question said that with number of surveys done under the **YUVA- India chapter for Generation Unlimited** have shown that the people of India want to be an engaged citizens and want skills and opportunities for future however, at the same time they aren't completely aware of the new way job opportunities and they are still going with traditional courses and career choices. She also raised the concern of youth regarding their futures and how many of these young people still lack education and opportunities.

In flow of the discussion, Sam Barrett presented a follow up question to Ms Shruti,

**What is the one piece of advice would you give to that 15-year-old who are keen to get green jobs but they didn't know about what they should be thinking or doing to have an opportunity in this space?**

In response to the question, she said that since the avenues for green jobs has recently started so they should be active and keep an eye open for opportunities as we as organization are working to make them more accessible to them.

Taking forward the discussion, Mr Barratt posed the question to **Mr Thomas Stenstorm, “What are the other sectors that gets you excited for green jobs growth other than the energy sectors?”**

**Mr Thomas** in response to the question shared that they work in the food chain values but it is the agroforestry component and there is a lot of work that required to be done in that sector. He points out that there is a possibility to create green jobs in every sector, we need to look at different processes so I wouldn't limit it to no specific sector and there are equal opportunities and possibilities in all sectors. I think that came out very clearly is that there is a mismatch between skills and demand or maybe there is a knowledge gap. He also shared that with his works, they don't want to leave anyone behind as we are seeing to impact a lot on communities, on workers.

Moving on to **Ms. Manisha Chaudhary**, he presented a question **“When you set you a PAGE what**



## is meant in terms of Green Jobs?

**Ms. Manisha** gave her views on how the whole section of the circularity in a sense brings out a whole lot of opportunity. In response to the answer, she mentioned that green jobs in certainly a central part and Indian government is laying on green economy. She further added that as there is a huge gap not only in supply and demand but also to understand where is the demand and where it can be filled. On the same note it is important to understand that in India where do we stand in terms of policies, mapping existing policies, opportunities and what kind of challenges exist. Apart from policies, we also need to know what kind of sectoral reforms would be required so that green jobs are not only about the production of green products and services but also about processes, procurement, certification etc.

**Mr. Barratt** going back to **Ms. Shruti**, asked her to share her views on **what should we look forward for both green jobs and green education and how youth may expect for their future?**

**Ms Shruti** said, there are certain things that are going to be sooner than 2030 for example, the need for green jobs is increasing more and more. For the next 3-5 years, we are planning to get the best for the young people, there are need to build marketplace, creating platforms and get more and more people access to technology. To give them the best support in terms of employment, access to upskilling content, get access to green jobs and green technology.

Adding to the conversation, **Ms Manisha** shared that, “In terms of future that we want for youth, it is also important to understand the future that youth want for themselves.”

**If one is keen to get a green job, what would the skill that you would be recommending to the young people? Is it agility or something else?**

**Mr Thomas** answering the question said along with the agility one must be flexible, open-minded to all the sectors and be proactive as one need to gather all the information and opportunities.

**Mr Sam Barratt** concluded the discussion stating that opportunities are infinite on green jobs and more work needs to be done on green skills to determine which sector require more effort into them.

## 4. Green Entrepreneurship - What are the best practices and scope for work in India?

The final discussion of the session was facilitated by **Ms Archana Dutt, UNEP.**

**What you work in the space of green jobs? What is your focus on training naturalists with the viewpoint of providing livelihoods?**

**Ms Priya Vanketash, Founder of Naturalist School**, shared her works in the green job sector as providing trainings to people and youth that are around the fringes of the tribal community to build the nature guides/eco-guides as an alternate source of livelihoods. She emphasized that **Livelihood combined with conservation is the only way to sustainability.** India as a country should be known for its naturalists given that as a community, culturally and traditionally, we have had a strong connect with biodiversity and nature all around us.” She highlighted that there is a huge need for standardization and quality education in the space of nature

interpretation and we should rather work with the communities that help and appreciate the nature in true sense. She further shared the concept of ecopreneurs that looks at 3E's: Entrepreneurship, Economy and Environment and challenges that comes with it.

Taking the panel discussion further, **Ms Archana asked Ms Saumya K., about the ventures and challenges she has faced as a green entrepreneur.**

**Ms Saumya** shared her experience of learning about carbon footprint and how that inspired her to live minimal and do better for society. She emphasized upon the need of sustainable lifestyle and with her she is collaborating with corporates and communities to create awareness about the sustainable lifestyle, towards minimal living. She further added advices to young entrepreneur working towards better environment.

Taking further the discussion, **Ms Archana asked Ms Shaila about her views on important role environmental communication plays in the conversation for driving and mainstreaming sustainability.**

**Ms Shaila**, commenting on the role of environment communication said, "Unless and until the narrative is created, we will not be able to drive a large part of the change that is expected. It plays a critical role in the scheme of the things but has not come out in the forefront. It is very much required." She further added the opportunities and scope of environment related communication jobs and how it is only going to build in future.

In response to the follow up question by Ms Archana on major skillsets required for jobs in environment communication, Ms Shaila said, "One must be passionate to bring a change, for nature along with the communications skills. It is also important that individual has the ability to strategize and visualize the message that could impact others."

Next speaker, **Ms Nivea Sunderraj**, C4Y talked about the work C4Y has been doing by engaging with youth at all levels of the governance along with the CSR projects. Talking about the green entrepreneurship she explained how C4Y is engaged with various civil societies and organization around India, Eco-Grants Program and mentoring students from different backgrounds.

The Session ended with concluding remarks by **Gayatri Raghwa, Environment Education Consultant, UNEP**. She thanked all the panellists and speakers for their passion and dedication.

### **Recommendations and Outcomes**

1. Potential for NGOs to act as an incubation centres for promoting green jobs.
2. Academic institutions/vocational institutions need to work closely with the Green Skill Council.
3. It is important to work at the school level to work with career guidance counsellors to engage, they have the necessary resources and training to effectively guide the students towards green careers and green jobs.
4. Higher educational establishments need to address the gap between the courses and skill sets offered currently.
5. With millions of jobs projected soon, time for industry and businesses to coordinate with academia to ensure that they get skilled professionals for their jobs as there is a skill and demand gap that needs to be filled.



## OCEANS ARE US - OCEAN LITERACY PROGRAMME

### Background

**Roots and Shoots** is a global community action program founded by Dr. Jane Goodall in 1991 that aims to bring together youth from all walks of life for one goal - the betterment of our environment.

Jane Goodall Institute, India, aims at promoting a culture of coexistence between all-natural species - people, animals, and the environment and aims to enable youth to work collaboratively and harmoniously for creating and maintaining a healthy environment through their educational programs and many other inspiring projects. With similar vision, Oceans Are Us, a Roots and Shoots program, was initiated aiming to nurture ecologically aware and environmentally mindful youth by raising awareness and concern for the oceans and inspiring actions to protect it. This ocean literacy educational program was designed to engage with local educational institutions and their communities seeking to create awareness and develop knowledge about the oceans and create an emotional connection to them.

### Objectives

The specific objectives are listed as follows:

1. To bring awareness and educate people on the impact caused due to anthropogenic activities on the oceans.
2. To share information on Roots and Shoots' sustainable model and approach to ocean literacy.
3. To make people knowledgeable and help them develop a life-long connection with the magnificence of the ocean and generate a willingness to protect it.

### Moderator

Ms Lubaina Bandukwala, Journalist, Children's Writer

### Speakers

Mr Rushikesh Chavan, Head, The Habitat Trust

Mr Shim Matthew, Director, VIBGYOR Group of Schools, India

Ms Shweta Khare Naik, Executive Director, Jane Goodall Institute, India

Ms Iwona Gin, World Ocean Network, France

Katherine Wallis, Information and Communication manager, I AM WATER Foundation (South Africa) [Online]

## Summary of Presentations and Discussions

**Ms Lubaina Bandukwala** welcomed everyone and introduced the speakers to the audience and **Ms Shweta Khare Naik** spoke about her association with Dr Jane Goodall while she was in Tanzania and talked about Jane Goodall Institute which works mainly in the primate conservation. She further elaborated on their action-oriented youth program which is called **'Roots and Shoots'** which engages young people of all ages into action projects in three thematic areas: people, animal and environment. She showcased a presentation on the genesis of Jane Goodall Institute and Roots and Shoots Program with the message that *every one of us makes a difference every single day.*

Introducing Oceans are Us Program, she said that this program aims to bridge the gap between young people and ocean literacy addressing the questions like importance of ocean literacy, with the belief that an ocean literate person will understand how our activities negatively affect our ocean and will be able to shift their way of thinking mindset and action towards sustainable habits and solutions. Ocean literacy being an urgent necessity, JGII commenced with the Oceans are Us pilot program for the year 2022-23 in collaboration with **The Habitats Trust.**

Key features of the project are:

1. Pilot project will be undertaken in 12 schools in four cities in India which are Mumbai, Mandvi, Ayodhya and Varanasi with the goal to empower young people with the correct knowledge and help them and develop a lifelong connection to our natural environment and the magnificence of the ocean and generate a willingness to protect it through action
2. Their approach is to understand our community to create an emotional connection with the ocean, develop an intellectual curiosity about the ocean, apply the Roots and Shoots model and approach to identify and solve issues through teacher consultation workshop and student interaction workshops. Pilot program of consultation has been done in Mumbai , Mandvi Ayodhya. In this,
  - Teachers and mentors were engaged to learn about the severity of human impact on oceans.
  - Interactive exercises were performed with participants which left them inspired.
  - Hands on scientific experiments and field trips to experience the coast and river banks.
3. As part of the Oceans are Us program, a resource box called Jane's Hope Box has been created for the participants. This box contains resources that will support the participants ocean literacy journey - including a beautiful handbook introducing ocean literacy as well as different aspects of the ocean; beautifully designed activity packs which will engage students and young kids so that they can actively participate in action projects on oceans; as well as books about mangroves, mangroves, etc.

**Ms Katie Bagli**, a children author, took everyone into a deep dive into the ocean through meditative exercise.

### Mr Shim Mathew

- Highlighted the importance of having an emotional connect with oceans along with knowing about the resources that are available in the ocean and using them in a balanced way in order to take the love for oceans forward. Also, emotional connect with oceans can be made

through the students, who he believes are the most important audience for ocean literacy and emphasized that only education can be the transformative agent in this.

- In terms of scaling up, he mentioned that by inspiring a student one can touch thousands of lives and so, the way of scaling any project is through students since the primary and middle school ages are the most impressionable age of a child as the learnt material goes for long-term.
- To enlarge the scope of students getting this knowledge, it is vital to bring this knowledge into practice and so, they are working on a curriculum that would integrate the oceans around philosophy and the knowledge on marine life and the resources that are available in the oceans so that even as the progress up they would take their learning to the next level.

**Mr Rushikesh Chavan** expressed his thoughts on the need to discuss about oceans.

- He said that oceans are us is science as well as philosophy. It is science owing to the fact that Earth and our bodies, both are made up of 70% water from which any science subject like chemistry, physics can be studied. Oceans are us is a philosophy since it shapes minds and students are impressionable and ocean literacy and love for oceans can be used to create bonds that last for life. He told everyone that Ocean Are Us program is about bringing actions in the sphere where students are not just taught but trained about oceans.
- He emphasized on the importance of ocean literacy in land locked cities stating that oceans are not just about the ocean but also the fresh water entering the oceans is as important to climate change mitigation as carbon dioxide and
- He talked about Return on investments which was an investment for the society into the current problems, investment for the next generation.
- Stressing on the need for everyone to unite for common goals, he said that there is no silver bullet but will be an important cog in the wheel JGI is trying to turn and putting all important cogs in the wheel like working with communities, actions for terrestrial ecosystems, rivers, etc. will really bring about the change.

**Ms Katherine Wallis** showcased a presentation introducing ‘I am Water Foundation’, in existence for over 10 years.

- She shared that the foundation works with youth from under-served coastal communities through a variety of ocean connection programs. They organize an Ocean Guardians Workshops, a two-day ocean education and immersion programs where students are taken to beautiful local tidal pool where they learn how to be in the water in a safe environment and understand their ecosystem. On the second day, students are taken to incredible pristine marine protected area beaches where they get to snorkel a little bit deeper and see what lies in the kelp forest.
- The foundation runs other sessions like river guardian’s workshops focusing on highlighting the link between river health, ocean health and human health. Then, there is school speaking series. The students are also given ocean guardian certificate that makes students remember their mission and promises to the ocean. The foundation lays a foundation of ocean literacy before jumping into the programs and fosters a sense of ocean stewardship to create a wave of new ocean conservationists, empowering them to make decisions that will improve the health of the ocean. She said: **“If we can educate young people to look after the ocean, we are helping them to look after themselves and thus, safeguarding the health of the ocean for generations to come.”**

**Ms Lubaina** expressed her pleasure in the program by saying that there is nothing more magical in her eyes than seeing a child's eyes and minds open up to new experiences. Taking the session forward, she asked Ms Iwona Gin from the Nausicaa Centre National de la Mer in France to share

her experiences with ocean literacy.

**Ms Iwona Gin** started by asking the audience a question as to what comes to their mind when they think about oceans and said that the answers reflect the connection and personal history with oceans that goes through emotions and must appeal the five senses for the same.

- She shared with the audience her present work at an aquarium and that they have a tank in which students can touch the aquatic animals like rays, skates. Other ways of developing the **connectedness** are field experience, learning and teaching. Bridging the knowledge deficit, the paradigm is changing by empowering everyone to come up with their best ideas and to be their best by collaborating and action-oriented learning.
- Iwona and her team at Nausicaa Centre National de la Mer work with the teachers and in association with their colleagues from Portugal, have identified the **different elements in each discipline** where they can propose to the teachers for **educating students about the oceans**. In addition to giving teaching and environmental skills, they also develop other skills like observation, investigation, creative thinking, communication skills, interpersonal schemes along with teamwork and collaboration.
- She elaborated on **'Find the Blue' challenge** developed by European Blue schools in which students identify a topic or challenge related to oceans, develop a project around it and collaborate with local partner leading to a service or tangible product. She quoted one of the examples of making glue from shellfish. Since their area has many fish processing factories, fish waste is generated. Kids came up with the idea that they would produce the glue from this waste. So, they got in touch with the researchers and the businessmen to see what can be done. In short, the challenge is about letting kids adopt and take the ownership of a coastal area and learn to manage it in a sustainable way by providing scientific assistance to these schools.
- They are also **developing games** such as escape game i.e., like treasure hunt where students can get out of a place only after find the nature-based solutions with different tips and clues and relating to its effect on the far-away high seas.
- She mentioned about the **Passport of the citizen of the ocean** developed by World Ocean Network in 2004. She added that this is a tool that proposes different activities, dos and don'ts related to oceans. The passport comes in two versions, one for adults and other for teenagers and kids and are available in eight languages, distributed across 35 countries. This passport is given to kids after an educational activity so they could take out something and go home and continue the whole process.

Taking the session further, Ms Lubaina opened the floor to questions.

**Mr Anoop** from the audience asked regarding the assessment methods being followed to see how much knowledge sticks with the child?

Quoting Peter Drucker, **Mr Rushikesh** said that what can't be measured, can't be improved. He told that generally, each program they run is about 18-19 weeks and at the end of academic year, they try to compile the data, plastic collection, quiz, Q and A sessions etc. which act as assessment tools and concluded by saying that more interesting assessment tools need to be developed.

**Ms Katherine Wallis** shared that they evaluate the students based on the surveys filled before and after the ocean literacy programs and also, after three months to test the knowledge retention on long-term basis.

**Ms Lubaina** pointed out that the young people are the consumers of what the present generation is doing. Also, she warned the young people against relying only on campaigns and emphasized on the need to strike a balance in information, knowledge, action and campaigning.

In answer to the questions related to ocean pollution, **Ms Shweta Khare** highlighted that awareness and knowledge are the first steps of any change and this is the reason why Oceans are Us programme is there. Developing the connection with oceans is very important, be it coastal cities or landlocked cities since everything is connected.

A person from the audience asked as in how to make the ocean literacy programs global. Attending the question, **Ms Shweta** said that the foremost thing joining everyone globally is love for oceans and other thing need to make these programs global is the collaborations. Ms Catherine further added that **“It is a very important question how do we plan on making oceans literacy as global programs and not just being small little units of people trying to make a difference.”**

Everybody in the panel agreed on the role of partnerships in making the ocean literacy programs, simultaneously acknowledging the need to execute the learnt methodologies in the context of their respective country and context.

The session ended with an inspiring song which sang

***“I can’t watch us lose... cause I can’t watch us lose”***

motivating everyone to take action for a better future.

### **Recommendations and Outcomes**

1. Need to develop more empirical assessment methods along with behavioural charting of students to monitor the impacts of ocean literacy programs.
2. Inculcate possible ways of ocean literacy, not just added in the curriculum but such that the children, find interesting and engaging.
3. People should put pressure on municipal corporations so that the wastes are not dumped into the oceans and it's pollution can be prevented.
4. To make ocean literacy programs global, a common resource base can be prepared where everybody concerned can share resources about people doing work in different areas and students can be plugged into it as citizen scientists.
5. Student exchange programs and providing a platform where students can exchange their experiences can be an important tool in making ocean literacy programs global.



## Thematic Session

# 04

## TECHNOLOGY FOR CONSERVATION EDUCATION

### Background

In the last 2 decades, the world has seen an unprecedented shift in the way it functions. Technology has enabled the economies to boom by extracting natural resources faster, feeding into the linear system of growth. This unsustainable development has resulted into problems such as over-consumption, wastage of precious resources, pollution and climate crisis glaring at us. Can technology also help us find solutions? Can technology also help us understand our environment better? Can it bring nature closure to us? Absolutely!

We can witness scientific innovations and technological interventions in almost all the domains- from agriculture to infrastructure and conservation to education. The unidirectional ways of instruction in schools have shifted to tech-enabled smart classrooms as the modern technology offers a plethora of tools and techniques to facilitate learning.

The 21st century children have a natural affinity to this new medium of communication, infotainment and education, and they are well-versed with it. We must leverage these tools to educate and skill the future generations for building a sustainable future.

Keeping this in mind, annual sustainability education conference being organized by Mobius Foundation has laid focus of the discussion around the theme of Technology for Conservation Education. The 4th International Conference on Sustainability Education (ICSE) is planned to be organized on 9-10 September 2022. As part of the conference, a breakaway working session is planned on Technology for Conservation Education which is being facilitated by World Wide Fund for Nature (WWF India).

### Objectives

- To recognise the need for conservation education for school and University students, educators in the context of current environmental status and the national agenda of promoting technology use and integration and online and digital education.
- To explore examples of technology driven conservation education programmes.



## Moderator

Neha Raghav, Associate Director Environment Education, WWF India

## Speakers

Neha Raghav, Associate Director Environment Education, WWF India

Saurav Chaudhary, Senior Program Officer – One Planet Academy, WWF-India

Sulagna Roy, Project Lead – Formal Schools, WWF-India

Harshita Parekh (Student, Amity International School, Ghaziabad), MCOP delegate

## Summary of the Presentations and Discussions

**Ms Neha Raghav** commenced the session with a warm welcome to the panellists and briefly introduced them. In her welcome address, she builds the context of the session by sharing her experience, work and projects. She said over the course of past two decades, children have changed a lot. The new learner is a digital native and has a natural affinity to technology. She talked about the WWF's work across the country including the pioneering Nature Clubs of India movement, programs for Government Schools, Wild Wisdom Global Challenge, the digital resource Centre and One Planer Academy. She mentioned that WWF-India's work is diversified because they recognized the linkage between conservation of species and its habitat with humanity footprint which is also highlighted in WWF's flagship biannual publication, the Living Planet Report. The report is an outcome of scientific research and study of ~32,000 individuals of over 5,000 species and understood the pattern of decline. She highlighted that the rate at which the species are declining is getting worse every year. She further mentioned that we do have IT infrastructures which are yet to penetrate into the education system and reach the last child in the country. Then, she invited Mr. Saurav Choudhury to take the session further.

**“The planet can do very much without us but we can do nothing without this planet.”**



**Mr. Saurav Choudhury** spoke about the role of technology in education. He said that technology by definition means using science for practical purpose. Now, it has become an integral part of our lifestyle. He further mentioned that EdTech i.e., Education Technology is being extensively used by school children. They are acquainted with technology and the technology skills are vital for the jobs of tomorrow. Understanding the power of technology, he informed that by 2025, the penetration of internet in India is supposed to grow by 45% and there will be 900 million+ internet

users in India. He also talked about opportunities that technology provides such as platform for global learning and engagement and data powered research. Through data, we can understand what is happening to our environment. He further shared some examples of how data enables us to monitor and analyse our biodiversity so that we can act further to protect it.

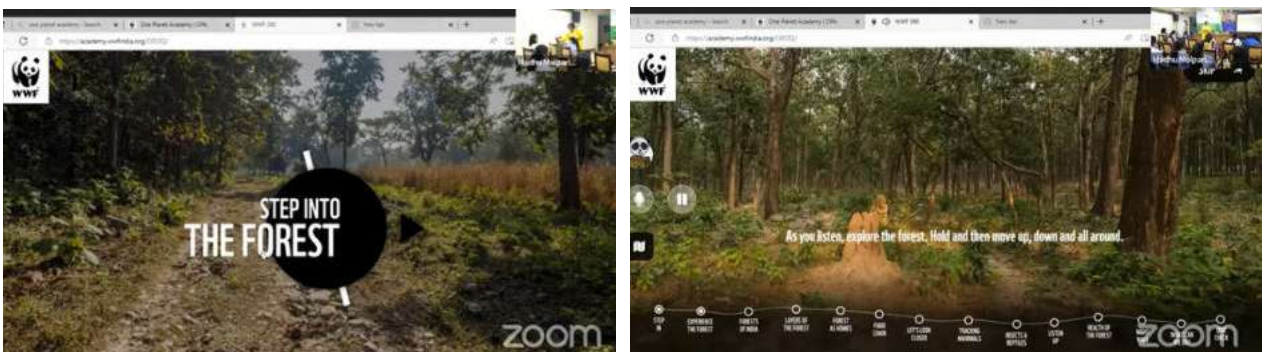
**“Technology is just a tool and a facilitator for us, it’s on us how we use it.”**

Talking about the ‘Year of the Tiger’, **Neha Raghav** informed that they organized ‘International Tiger Youth Summit’ where they had youth from 13 tiger range countries. Highlighting that conservation needs a multi-stakeholder approach, they came up with a declaration with a set of recommendation for various stakeholders during the summit. She also shared a video to inspire the audience about power of youth voice and emphasized on the fact that technology had not only made it possible to get these 13 youths from 13 tiger range countries onto single platform but also enabled them to create impact in their own countries.



She further talked about personalized learning by giving examples of some of their programs which were started in pandemic such as ‘One Earth One Home Movement’ and ‘Podcasts on One Planet Academy’.

Taking the session forward, she invited **Ms. Sulagna Roy** to speak about ‘**Tools of Tomorrow**’. To make the audience familiar with experiential learning, Ms. Sulagna Roy made the audience experience a virtual tour of the forest hosted on WWF-India’s digital resource centre ‘One Planet Academy’. It was multi-sensory, provides interesting games, PDFs and much more. She further spoke about gamified learning experience and Internet of Things (IOT).



Ms. Sulagna invited MCOP delegate, **Harshita Parekh**. In her address Ms. Harshita Parekh stated that what goes around comes around and same is with the case of nature. She emphasized on the need to take actions and action on a massive scale would require communication for which technology is the best tool. She further highlighted how technology enabled 72 student delegates from each of the 36 States and Union Territories of India to participate in the Model Conference of Parties initiated by WWF-India in 2020 at the International Day for Biological Diversity.



### **Recommendations and Outcomes**

- Equip schools with internet-enabled labs for students to explore and learn from the digital resources available on various web platforms.
- Participants will find avenues to impart conservation education with the help of existing technological tools.
- Green the school campus and embed data-based citizen-science projects for middle and high school students with help from portals such as India Biodiversity Portal, I-naturalist etc.
- Mandate one ICT skill application based project on sustainability to be undertaken by all teachers (An integrated approach to building teacher capacity).

## Thematic Session 05

### ECO-RESTORATION FOR PEOPLE, NATURE & CLIMATE

#### Background

The world is facing severe challenges. Billions of people around the world are suffering the consequences of the climate emergency, food and water insecurity, and the COVID-19 pandemic. Ecosystems are indispensable as we meet these challenges. Protecting them and managing their resources in a sustainable manner is essential. But just increasing the protection and sustainable management of our remaining natural landscapes and oceans will not be enough: the planet's degraded ecosystems and the huge benefits that they provide must also be restored.

By declaring the UN Decade on Ecosystem Restoration, governments have recognized the need to prevent, halt and reverse the degradation of ecosystems worldwide for the benefit of both people and nature. The 2021–2030 timeline underlines the urgency of the task. Without a powerful 10-year drive for restoration, we can neither achieve the climate targets of the Paris Agreement, nor the Sustainable Development Goals. The discussion explains the crucial role played by ecosystems from forests and farmland to rivers and oceans and charts the losses that result from our poor stewardship of the planet.

#### Objectives

The objectives of the session were as follows:

1. Crucial role played by ecosystems
2. New ideas and innovations to restore the ecosystem
3. Restoration of the ecosystem at a global scale

#### Chair

**Mr Praveen Garg**, Advisor, Mobius Foundation and Former Special Secretary and Financial Adviser, Ministry of Environment, Forest and Climate Change, Government of India

#### Moderator

**Dr Vinita Apte**, Founder and Director, TERRE Policy Centre

## Speakers

- Ms Katharina Gehrig, Programme Manager, Global Nature Fund
- Mr Pravin Bhagwat, Founder, 14 Trees Foundation
- Dr Ninad Raut, Lead Ecology and Biodiversity, Terracon Ecotech Pvt. Ltd., Mumbai
- Mr Amit Godse, Social Entrepreneur and Honey Bee Conservationist

## Summary of the Presentations and Discussions

**Dr Vinita Apte** moderated the session with a provoking animation video showcasing how humans are degrading the environment and afterwards she extended a warm welcome to all the participants, panellists and experts speaking for joining the session. She introduces the chairperson and panel member for the session.

**Mr Praveen Garg** chaired the session and, in his address, he said that planet is at risk. There is no time to lose we need to act now to keep the global temperature increase below 1.5 °C, reduce the risk of future pandemics, ensure food security and nutrition for all, and eliminate poverty. He also discussed UN Decade 2021-2030 on Ecosystem Restoration with the theme Recreate, Reimagine, and Restore. This decade of restoration and SDGs are co-harmonious in 2030. He also shares his experience with Tribal and their approach towards the protection and conservation of forests. **“The choices we make today will significantly impact our health, economy and climate for decades to follow.”**

**Ms Katherina** in her presentation talks about the conservation of lakes. She said currently, many lakes have been affected due to human activity and are thus more vulnerable to climatic impacts such as rising temperatures and hydrology part new challenges for protection. In order to protect the water ecosystem and its further function we need to focus more on the consistent avoidance of pollutant inputs, renaturation of banks, and restrained use for irrigation and cooling. Ecosystems support life on earth and planting and protecting trees, natural water supplies, and soil fertility restored and they can be an important resource to prevent climate change and store carbon dioxide.

**Mr Pravin Bhagwat** demonstrates the Importance of tree plantation. He said as a human we need to do more for protecting nature. There is general thinking among the population that it is only the government’s job to take care of forests and meet the UN Targets but life is too short and we can not wait for the government to do its job. Taking consideration of that that he initiated the 14 tress foundation which plays a crucial role in the plantation. He further explains the working model with rainwater harvesting methods, live laboratories with human alignment with the innovative idea of writing the name on trees which creates a sense of belonging in the individual. **“Citizens have to take some proactive actions”**

**Dr Ninad Raut** speaks about populating Nature-based solutions for a cleaner, greener, healthier planet. He said that there is a need to reconcile business and biodiversity as we can not live without development. He also mentioned various case studies of the global distribution of mangroves, the mangroves ecosystem covers only 0.037% of the world’s surface or 0.12% of the earth’s land area. Ecological Restoration and Sustainable Livelihood: Initiative to use global support to enhance the resilience of the community by taking locals along for their sustainable development through restoring the ecosystem using nature-based solutions. As a result, 2lakh trees were planted with community involvement and planning to extend 8-10 lakh plantations.

**Mr Amit Godse** said there has been an increase in demand for pollination services as the number of honey bees is declining. Reduction in pollination decreases food yield, affecting food security. Thus bees play a vital role in the growth of many crops and wild plants, which is crucial for food production and biodiversity. He added abundance in agricultural landscapes and related ecosystems is now well recognized that 74% of pollination is done by bees only. Protection and conservation of the threatened pollinator species as well as their natural environment are required. He acknowledges the benefits of the insect and conserves them as pets in their bungalows and apartments also acknowledging the benefits of the insect and conserving them as pets in their bungalows and apartments.

### **Recommendations and Outcomes**

- Eco restorations to be done in a participatory manner. Participation and collaboration Civil society organizations and the corporate sector should be encouraged. Few ecosystems may be considered in PPP models with the Civil Societies and corporate models.
- The ecosystem services should be measured in terms of benefits
- The local community should be involved in the measurement of ecosystem services periodically so that they feel ownership of the ecosystem where measurement of ecosystem services would be done periodically.
- The local community will be motivated to conserve the ecosystem
- Certain ecosystems should be given to the private sector or civil societies.
- Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds may be used for ecosystem restoration. These funds can be given to civil societies for restoration purposes and they can be monitored.
- Small pilot projects can be done for the restoration
- Community involvement is required in a transparent manner.



# Day 2

**10.09.2022**

## **Plenary Session 3**

- 'Mission Prakriti' Launch by WWF India
- 'Youth for Earth' Award Ceremony

## **Thematic Sessions**

- 6. Promoting Innovations to Achieve Sustainable Development**
- 7. Celebrations of Net Zero Carbon & Impact Journey: GCP Schools ki Zubaani**
- 8. ChimpanZoo - Chimpanzee Research, Education & Outreach Programme**
- 9. Demystifying the Myths and Realities of ESG**
- 10. Abu Dhabi's Environmental Education Programmes**
- 11. Oral Presentations of Contributed Papers**
- 12. Sustainability Educators Conclave**
- 13. Handprint Methodology - Experience Sharing**
- 14. Higher Education**
- 15. Digital Solutions to Sustainability Education**
- 16. Sustainability with Circularity**
- 17. Importance of Education for Achieving India's Carbon Neutral 2070 Target**

## **Concluding & Valedictory Ceremony Awards**



**Plenary  
Session  
03**

**'MISSION PRAKRITI' LAUNCH & 'YOUTH FOR EARTH' AWARD CEREMONY**

**Mission Prakriti by WWF**

Mission Prakriti aims to open up avenues wherein you can contribute to create a sustainable world through individual and collective action. Mission Prakriti prepares school students to work towards building green schools and transforming their communities into green communities. Schools, where young minds are shaped and children find a little community—of friends, peers, and supportive adults—with whom they can learn about our impact on the environment, build support for change, and launch a movement to build a green school. These children are then equipped to expand their efforts to their local communities to transform them into green ones. The Mission Prakriti journey, therefore, includes three steps—connecting with nature, building a green school, and building a green community. This course is designed to prepare youth to launch their own Mission Prakriti in their schools and communities.

**Objectives**

- To explore, observe, understand, and engage with nature and the world around you.
- To develop everyday habits and behaviour for sustainability.
- To discuss and reflect on how to act both individually and collectively to contribute to sustainability.
- To develop practical ideas and solutions for creating sustainable schools and communities.
- To become eco-ambassadors who inspire others to act.

**Moderator**

Ms. Neha Raghav, Associate Director Environment Education, WWF India

**Speakers**

- Radhika Suri, Director Environment Education, WWF India
- Mr Kinley Dorji, Lecturer, Royal Thimpu College, Bhutan
- Dr. Ram Boojh, CEO, Mobius Foundation



## Summary of the Presentations and Discussions

The session started with the launch of Mission Prakriti, which is a student led movement to green our schools and communities and build a sustainable world. **Ms. Neha Raghav** moderated the session and extended a warm welcome to all for joining the session. She expressed her heartfelt gratitude to **Mr. Pradip Burman**, chairman, Mobius Foundation; **Dr. Ram Boojh**, CEO, Mobius Foundation; **Mr. Kartikeya Sarabhai**, Founder and Director, CEE and partners for their contribution in conference planning and execution.

**“There cannot be a better platform than the International Conference on sustainability education to launch Mission Prakriti”**



After welcoming the guests for the occasion, she invited Ms. Radhika Suri to take the session further.

**Ms. Radhika Suri** in her address said that ideas are validated when the organization goes on the ground and does the work. She emphasized on the need to empower children to take more actions. Children need solutions and adults, who work with them, need to show them ways in which they can think and lead the way. She further shared a short film of the programme that they had done across the country to give an idea of what environment education should be today. Should it be just a subject or a way of life?

Following the address, Ms. Neha Raghav invited all the guests on the stage to unveil the handbook of Mission Prakriti. Further, she invited Mr. Kinley Dorji to share his views on the programme.

**Mr Kinley Dorji** spoke about the 4 pillars of what nature expects. The first pillar is ‘Ethics of Environment’ which is about science of understanding and connection with nature. ‘Legal Window’, a framework in which youth respect, appreciate, and act in line to what nature actually demands forms the second pillar. The third pillar is ‘Nature Consciousness’ which they also called wisdom recites. It is about the wisdom that comes with the people's understanding of how they connect with the nature. The fourth pillar is ‘Resolve the Power of Action’. He said the Mission prakriti is all about resolving the power of action and the power of action advocates for environment through steering the mass youth.

**Ms. Neha Raghav** presented a video which brought to everyone’s knowledge, the benefits of engaging a child in Mission prakriti program. After the video, she invited Dr. Ram Boojh to address the session.

**Dr. Ram Boojh** congratulated the team for the programme launch and said that the Mission Prakriti booklet is very informative and an important tool to provide sustainability education which is all about transformation.

## Youth for Earth Award Ceremony

The 'Youth for Earth' is a campaign for youth to showcase their environment-friendly actions and tell the world that change starts with them. It is about work on the ground that results in a change for a more sustainable planet. Youth for Earth 2022 is a collaboration of **Mobius Foundation and The Climate Project Foundation, India and South Asia (TCPF-India)**. The motivated youth from the countries of South Asia (Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka) are invited to join the campaign. The youth can participate in two categories: Junior (From classes 9th to 12th) and Senior (Graduation/Post Graduation). They can choose a challenge from one of the 7 mentioned themes and carry out projects/campaigns either or through physical means or both:

1. Climate Change – SDG 13 (Climate Action)
2. Water Management – SDG 6 (Clean water and Sanitation)
3. Waste Management – SDG 12 (Responsible Consumption and Production)
4. Air Pollution – SDG 3 (Good Health and Well-Being)
5. Energy Efficiency and Conservation – SDG 7 (Affordable and Clean Energy)
6. Population and Sustainability – SDG 5 (Gender Equality)
7. Nature and Biodiversity – SDG 14 (Life below Water) and SDG 15 (Life on Land)

**Ms. Smruti Sweta Samantray**, TCPF-India commenced the award ceremony with the quote, ***“We cannot always build the future for our youth, but what we exactly do is we build youth for the future.”***

She highlighted that Mobius Foundation and TCPF-India believe in co-creating a sustainable future for all and this led to the creation of Youth for Earth Championship which offers a platform to the youth to come forward with the plan of action to mitigate climate crisis.

The session further proceeded with a quick introduction of each team, as well as showcasing their video reports, in the following sequence:

### Junior Category:

1. Team Pramiti
2. Team SD's Change Makers
3. Team Terra Time
4. Team Pune Plastic Warriors
5. Team Urvara - Greening Mother Earth

### Senior Category:

1. Project Ikhtiyar
2. Crew for Climate

The members of the team were invited to the podium to share their story about how they completed the projects, the challenges they had faced, and impacts and outcomes of their efforts, among others. This was followed by prize distribution.

## Junior Category Awards

### Winner 1 – (Online)

Name of the Team: **Urvara - Greening Mother Earth**

Project Name: Urvara - Greening Mother Earth

Team Representative: Adhi Daiv

Names of the Team Members:

- Harshal
- Khushi
- Riya
- Kumkum

Brief of project:

The project “Urvara-Greening Mother Earth” by Adhi Daiv from Rajasthan started with the purpose to reverse the soil degradation of arid wastelands of the desert region of Rajasthan by using a unique method of plantation of dry land agroforestry which requires only one litre of water to grow any native plant for its entire life cycle. Project Urvara believe that this scientifically proven model to stop the process of further desertification can help solve the global problems of food, water, energy, global warming, ecological imbalance for all.



Team Urvara (L) and Team Pune Plastic Warriors (R)

### Winner 2 – (Online)

Name of the Team: **Pune Plastic Warriors**

Project Name: Implementing Plastic Waste Management through Awareness and Action

Team Representative: Annapoorna Narayan

Names of the Team Members:

- Siya Tanwar
- Ishika Khatri
- Urvi Dedhia
- Riya Vikesh Doshi
- Srushti Shelke

Brief of project:

The objective of the project of team Pune Plastic Warriors from Pune is to prevent build-up of plastic waste in community and provide tangible solutions by gradually replacing as much plastic as possible in our daily lives. The team used the power of social media to spread awareness about plastic pollution, promote sustainable alternatives and give recognition to eco-warriors to inspire further action. They conducted interviews, recycling campaigns, promoted eco-friendly products in eco-melas and inspired participation to real change.

### **Winner 3 – (Physical)**

Name of the Team: **Terra Time**

Project Name: Terra Time | It's time to do our part

Team Representative: Sakina Nadeem

Names of the Team Members:

- Aishani Singh
- Jasmyra Sahni
- Malvika Nair
- Navya Sharma
- Lalnunkimi Hnamte
- Mugdha Kumthekar
- Rhea Sehgal
- Sakina Nadeem

Brief of project:

It is important to recycle and reuse plastic waste, not all types of plastic waste are recyclable, nor are they reusable - which is why managing this waste is creating a huge problem. By making eco-bricks, team Terra Time from New Delhi used non-recyclable plastic waste, like polythene, flimsy wrappers, etc. instead of throwing them away. These eco-bricks are then used to make different pieces of furniture. They also collaborated with other organizations. Many people are still not aware as to what eco-bricks are, and how they are made. By making eco bricks, individuals can start right this moment to take charge of their plastic.

### **Winner 4 – (Physical)**

Name of the Team: **SD's Change Makers**

Project Name: Climate Change Project

Team Representative: Yashasvi Parshad

**Brief of project:**

Combating climate change is one of the biggest challenges we face today. To overcome this, all sectors of society have to contribute. The SDG's change makers from Ambala wishes to share how schools can contribute to stopping climate change and helping our planet earth. Through this project, they want to spread awareness and unleash the creativity of students to develop and implement climate action communities.

**Winner 5 – (Online)**

Name of the Team: **Pramiti**

Project Name: Garbage to Gold - Garden in a basket

Team Representative: Godson Messiah

Names of the Team Members:

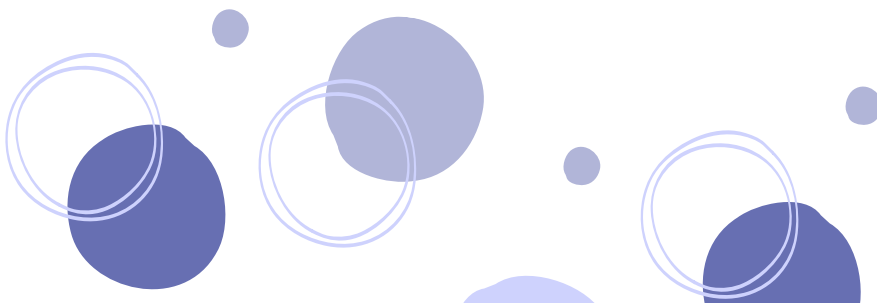
- Karun
- Shreenidhi
- Roopendra
- Soumya

**Brief of Project:**

Team Pramiti, from a recent visit to CRT (Centre for Rural Training), Hosur, perceived that a good amount of damaged and mediocre vegetables and fruits are left behind after sorting. They decided to devise a method to utilize this organic waste in a constructive and beneficial way. By practicing composting the amount of waste that ends up in landfills can be reduced. As a group, they were able to take small initiatives to prevent wastage of organic matter, which has great potential. They feel that if this method is put into practice in numerous communities, we can shape a clean and healthy environment for us and for the people of our society.



Team Terra Time (L) and Team Pramiti (R)



## Senior Category Awards

### Winner 1 – (Physical)

Name of the Team: **Project Ikhtiyaar**

Project Name: Project Ikhtiyaar

Team Representative: Prarthna Bhattacharya

Names of the Team Members:

- Prarthna Bhattacharya
- Hiya Poddar
- Hrishita Chatterjee
- Sadhvi Mehra
- Ishita Sharma

Brief of Project:

Initiated in November 2017, Project Ikhtiyaar from Delhi aims at ‘Eradication through Utilization’, by harnessing the hidden potential of water hyacinths to overcome the challenges they pose. Project Ikhtiyaar aims to produce manure using water hyacinth as the main component along with other biodegradable waste in order to clean river Yamuna and improve the economic condition of our community members. By improving the community’s living standards and overcoming prejudices, Project Ikhtiyaar aspires to bring about a revolutionary impact.



## Winner 2 – (Online)

Name of the Team: **Crew for Climate**

Project Name: Tamira SES

Team Representative: Shubhankar Shahi

Names of the Team Members:

- Shubhankar Shahi
- Rahini V Krishnan
- Himani Chauhan
- Aayush Chauhan

Brief of Project:

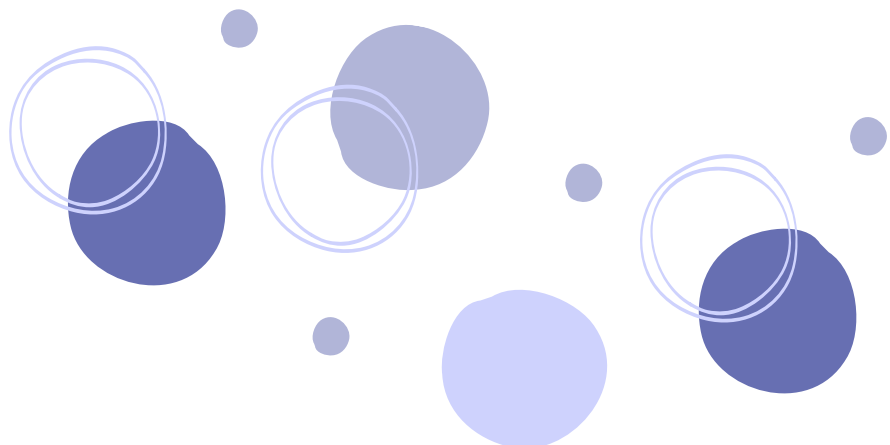
Team Crew for Climate from Vadodara, Gujarat understood how increasing water use, water pumping and variable rainfall leads to the death of a river. When so many variables come into the picture the natural resilience of the river dwindles. The team with the help of their varied study backgrounds and team from ACCC- ATREE conduct social surveys, water quality tests, biodiversity study and vegetation mapping using ground methods and GIS. On the more scientific end they created prediction models of rainfall vulnerability while on the action part on ground the team created toolkits to monitor their local riverbanks and diversity.



**Mr. Pradip Burman**, Chairman, Mobius Foundation; **Dr. Ram Boojh**, CEO, Mobius Foundation and **Mr. Aditya Pundir**, Director, The Climate Project Foundation – India and South Asia felicitated the winners with cash prize based on the ranks they secured.



The ceremony ended with Mr. Aditya Pundir's words of gratitude for Mr. Pradip Burman and everyone involved in making this session successful. He said it was heart-warming to see the projects being done by young people which shows the efforts put in by the foundations are in the right direction.







## PROMOTING INNOVATIONS TO ACHIEVE SUSTAINABLE DEVELOPMENT

### Background

Sustainable Development Goals (SDGs) are a bold universal agreement. World over, actions are being taken to promote education for sustainable development. Goal 9 of the SDGs aims to promote economic development and human well-being by facilitating sustainability and innovations. These innovations could be in all sectors of development like, environment, infrastructure, circular economy, affordability and equitable access of benefits to all.

In a knowledge-based economy, it is important that capacities of students and teachers are built to think out-of-box, identify innovative solutions for issues surrounding them, as well as, understand the importance of protecting their knowledge through appropriate intellectual property instruments. These innovations could be both, at the grassroots level or at the higher education level. The present session will try to bring out how various aspects of innovations in science and technology are contributing towards achieving 17 Sustainable Development Goals.

**Pushpa Gujral Science City (PGSC) has undertaken a one-year campaign titled “Sustainable Development: Attitude, Skills and Knowledge” (SD-ASK) in collaboration with United Nations Development Programme (UNDP) SDG Coordination Centre, Punjab for promoting Education for Sustainability in the State of Punjab.** SD-ASK Clubs have been set up and minimum 2 programs every month are conducted for students of these clubs. The present session helped to take the ESD agenda further.

### Objectives

- Innovations for sustainability
- Role of capacity building to promote innovations
- Importance of grassroots innovations in solving local developmental issues
- Sustainability solutions through emerging S and T tools
- ESD experience sharing from other countries

### Chair

Mr Anil Gupta, Founder of Honey Bee Network, SRISHTI and Prof. IIM Ahmedabad

## Moderator

Dr Neelima Jerath, Director General, Pushpa Gujral Science City, Punjab

## Speakers

- Ms Huma Abidi, GM and Senior Director AI software Products and Engineering, INTEL Corporation, Santa Clara, USA
- Mr Prateek Deshmukh, Lead, Atal Tinkering Mission, Atal Innovation Mission, Niti Ayog, New Delhi
- Ms Meeta Nangia Goswami, ESD Expert, SWISS Agency for Development and Cooperation Mongolia
- Ms Sharda Pullabhatla, Kamla Nehru Public School, Chakk Hakim, Phagwara, Punjab

## Summary of the Presentations and Discussions

**Dr. Neelima Jerath** welcomed the chair and the speakers. In her welcome address, she emphasized on the need to promote out of the box thinking among students and youth to achieve sustainability education. She said that we need to nurture ideas that may appear wild, but are practical and identify ways and means to implement these ideas.

**Mr. Anil Gupta** in his address said that Sustainable Education requires real, simple and hard actions that are measureable and actions that do not require any policy changes. He further said, “The youth should be made to grow in such a manner that they may practice /learn sustainability on their own”. He further said that “sustainability lies in diversity”. He emphasized that we need to focus on steps that can help to remind us about our responsibilities and involve nature in our daily lives so that every small step we take may take us closer to nature for a better sustainable future.

**Ms Huma Abidi** spoke on **Artificial Intelligence (AI) and Sustainability**. She said that the scope of AI is limitless and it is still growing. It is now possible to tackle some of the world’s biggest problems with emerging technologies and AI has emerged as a powerful tool to combat major environmental issues as it is already contributing towards solutions to reduce carbon footprint and is making a huge impact in areas like climate change, water security, weather forecasting and disaster resilience. However, its role as a contributor to emissions due to big data processing also needs to be looked at and we need to pay more attention to Red AI and making it greener.

**Mr Prateek Deshmukh** gave in-depth overview of **(Atal Innovation Mission) AIM programs** with special focus on Atal Tinkering Labs and Atal Incubation Centers, their establishment, network and industry collaboration. He said that the purpose of ATLS and Atal Innovation Mission is to create an ecosystem of innovation and entrepreneurship in the country. He further informed that the Atal Innovation Mission has established 10,000 Atal tinkering Labs in schools across India to develop an innovation ecosystem at the school level, the Atal Incubation Centre focuses on promoting startups. He also discussed the ‘Mentor India initiative’ and informed that currently 5800 + mentors, 90 + RMoCs (Regional Mentors of Change) are spread across 479 cities and are mentoring 4900 + schools.

**Ms Meeta Nangia Goswami** shared international (Drobak Montessori School, South East Norway) and Indian (Swaraj School) examples about sustainability education. She emphasized that we should create opportunities for learning and living sustainably. Stressing on need to redesign student experiences to develop competencies and mindset so that students can become active contributors to sustainability, she opined that every school has that elbow room where they still

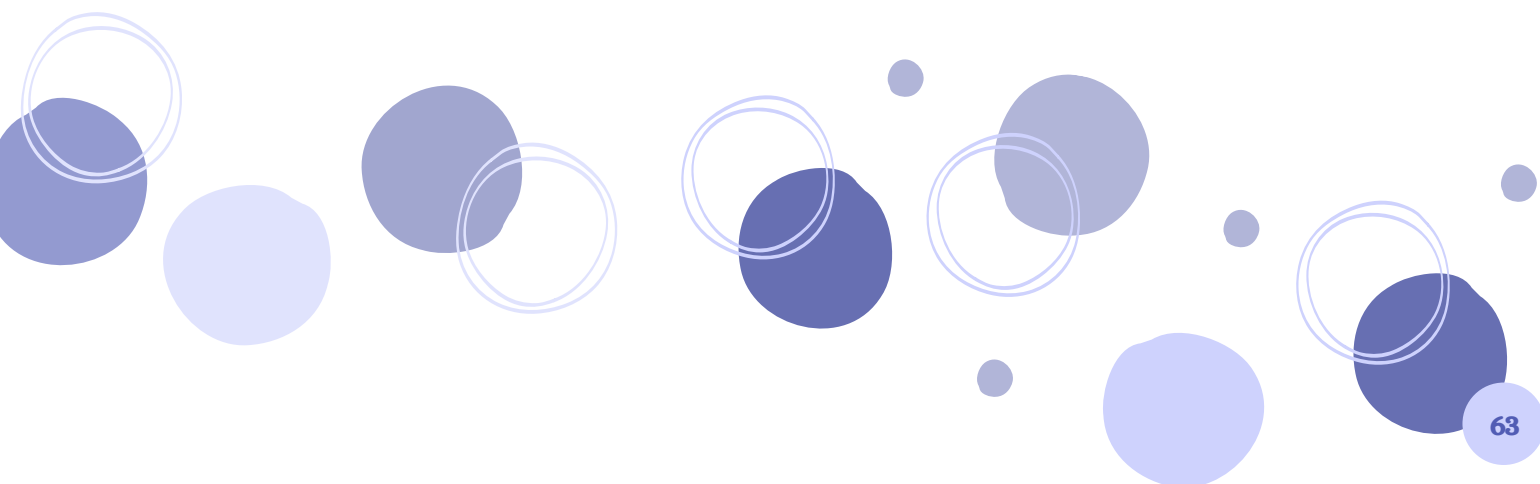
meet the national standards but do this in a way that creative learning experiences are optimized.

**Ms Sharda** presented her ideas on Sustainability Education and how their school is practicing sustainability in its premises by involving every student in creative hands-on activities. The Kamla Nehru Public School's entire curriculum has been mapped to the SDGs for all the classes from k to 12. The educators are SDG ambassadors, students are SDG warriors and the partners, parents or a wider community are the SDG partners. Since project-based learning is the best method to bring sustainability into education, therefore KNPS has initiated several projects such as RiseUp4Ewaste, RiseUp4SDGs and many more similar activities. After the COVID, when the students came back to schools and teachers observed the behavior and academic gap amongst students, a new project 'Road to Recovery' was initiated supporting Sustainable Development Goal 4 which is 'Quality Education'. Under, this project school assesses the learning losses and rebuilds the foundational competencies, literacy and numeracy skills. They are also using design thinking. The School believes and focuses on the journey of SDGs, continues to transform education by inculcating innovative ideas and motivating school children.

Concluding the session, the chair appreciated all the speakers and their work in their respective fields and emphasized that small steps can have a big impact. He also appreciated the efforts of Science City in disseminating sustainability education and innovation.

### **Recommendations and Outcomes**

- Identify and bridge gaps in India's Science, Technology and Innovation Ecosystem to provide a competitive edge to young entrepreneurs internationally.
- Education for sustainability needs to address the whole ecosystem. Latest Technology offers many solutions to help society become more sustainable but continuous innovations are important for improvement.
- Citizen need to be made aware that they are a part of the whole planet and that there are no shortcuts to sustainability. Every small action is important.
- Students, both at the school and college level, need to be continuously engaged with nature.
- Innovations at the grassroot level need to be identified, recognized and rewarded so that citizen are motivated to tackle environmental and developmental challenges.
- Frugal innovations and contextualization of Traditional Knowledge are as important as innovations using modern S and T tools.
- Open source content and learning tools need to be made available to all to facilitate innovations.
- Creating an ecosystem which emphasizes on interactive and hands-on learning, inculcates out-of-box thinking and provides opportunities to pursue enhanced learning in specific areas of individual interest for each child at school/college level is important.





## Thematic Session 07

### CELEBRATIONS OF NET ZERO CARBON & IMPACT JOURNEY: GCP SCHOOLS KI ZUBAANI

#### Background

The session, “Celebrations of Impact Journey,” aimed at putting the spotlights on the impact journey of the Green Campus Program schools that have transformed their conventional campuses into sustainable ones. Green Campus Program (GCP) is one of the flagship programs of The Climate Project Foundation (TCPF), which is spearheading educational institutes on the path of greener future. They started the journey in 2019 with the 1st ICSE and 1st GCP Awardees. From 2019 till now they have become stronger and better. From 10 schools now, they have 500 Schools from all over India in some big chains from Delhi, Maharashtra, Jammu and Kashmir, Uttarakhand, Karnataka, Telangana, Uttar Pradesh, and Punjab joining us. In a year it is expected that they would cross the 1000 marks.

The roadmap to sustainability necessitates proactive and effective involvement of the future generations; hence, inculcating the values and education that make them planet-sensible is imperative. GCP has brought-in change in this sphere in lengths and breadths. During the session, the panellists shared their experiences with the audiences about how with the help of this program they have amplified their organizational goals and how they engage the students, teachers, local communities, parents, and various other stakeholders, holistically, to create sustainable impacts on the society and the lives of the future generations bringing in behavioural and attitudinal changes. In a nutshell, it implied on the journey of making a difference.

#### Moderator

Ms. Rekha Lalla, Manager- Green Campus Program, TCPF

#### Details of the Session

The session began with the Dance Performance by Blue Bell School Gurugram focussing on invocation of Mother Earth and with the blessings of almighty. Through the performance, students appreciated the goddess of wisdom for her blessings and her bestows upon us with good health and a good Environment. According to Ms Rekha Lalla- **“Green Campus Program is**

**focused on health and environment. It aims to provide, motivate and inspire the future generations for a sustainable solution by bringing lifestyle changes.”**

With a welcome note and quick briefing about the session Ms. Lalla invited one of the **Principal Trustees of TCPF Mr. Kamal Meattle** to address the gathering of GCP Winners. He stressed on the current climatic conditions and a solution to this problem. He shared that many people think climate change mainly means warmer temperatures but temperature rise is only the beginning of the story because the earth is a system where everything is connected, changes in one area can influence changes in all others. In a series of U N reports thousands of scientists and government reviewers agreed that limiting global temperatures rise to no more than 1.5 degree centigrade, would help us to avoid the worst climate impacts and maintain a liveable climate. Remember there are no walls in the sky whatever happens one place mixes up and goes to the other. Three broad categories of action for cutting emissions are; adapting to climate change impacts and financing required adjustments, switching energy systems from fossil fuels to renewables like solar or wind.

**“We have to do our bit today in whatever way we can, let's not worry about the extent or the reach but i think even a little bit we do will contribute to, making this happen, to making the future a sustainable one so we can all live happily and not perish.”**



This was followed by **prize distribution ceremony**. The schools were awarded according to the Green Measures they have adopted for becoming a GCP certified school. The prizes were given by Mr. Aditya Pundir, Director, TCPF.

1. SD Vidya school Ambala-Platinum Rating
2. Mann Public School, Delhi-Platinum Rating
3. The Foundation School-Gold Rating
4. Delhi International School, Delhi-Gold Rating
5. Mount Abu School, Rohini Delhi-Gold Rating
6. The Indian School, Delhi Gold Rating
7. Bal Bhavan Public school, Mayur Vihar, Delhi-Gold Rating
8. East Point School Vasundhara Enclave, Delhi-Gold Rating
9. KIIT World School, Sohna Road, Gurugram-Gold Rating
10. Sadhu Vaswani International School for Girls, Shanti Niketan, New Delhi-Gold Rating
11. SD Public School, Patel Nagar, New Delhi, -Gold Rating
12. S D Vidya School, Noida, Uttar Pradesh-Gold Rating
13. Venkateshwar International School, Sector 18 Dwarka, New Delhi-Gold Rating
14. Adarsh Public School, Bali Nagar-Delhi-Gold Rating
15. Alchon Public School, Mayur Vihar, Delhi-Gold Rating
16. Brain International School, Delhi-Silver Rating
17. Blue Bells Model School, Gurgaon, Haryana-Silver Rating
18. Maa Anandmayee Memorial School, Dehradun -Silver Rating
19. Dayawati Modi Public School, Modinagar, UP-Silver Rating
20. Kothari International School, Noida, Uttar Pradesh-Silver Rating
21. Suncity School Sector – 54, Suncity, Township, Gurugram, Haryana-Bronze Rating
22. Bright Avenue School, Delhi - Rohtak Rd, Jakhoda, Bahadurgarh, Haryana-Bronze Rating

This was followed by the session's segment, **"We Made it Happen!! GCP Schools ki Zubaani,"** wherein some of schools that have performed marvellously in different domains (like Air, Water, Energy, Waste, and Biodiversity) shared their success stories.

- **Air and Energy: Sadhu Vaswani School, Delhi**
- **Water: SD Vidya School, Ambala, Haryana**
- **Waste: KIIT School Gurgaon, Haryana**
- **Biodiversity: The Mann School, Delhi**

This segment was followed by cultural program. Everything in nature is believed to have a soul, and dance is used as a rhythmic ritual that helps us to form connections with the nature. KIIT School, Gurgaon presented a dance drama on Climate Change.



The session concluded with **“Vote of Thanks”** by **Mr. Aditya Pundir**. He emphasized that the rationale of Green School programme is that every school is able to move towards carbon neutrality. We are already living now climate change and it's important that all of us get together and start this fight together and no place better than us than a school. The children today in school will be doctors, engineers, business person and they're the ones who are going to decide how the world move forwards. The idea behind green campus program is make the children feel the solution, make them live the solution.



## Thematic Session 08

### **CHIMPANZOO - CHIMPANZEE RESEARCH, EDUCATION AND OUTREACH PROGRAMME**

#### **Background**

**ChimpanZoo** was established in 1984 as a collective effort between Jane Goodall Institute, Zoo facilities, and universities. ChimpanZoo is an international research program that is dedicated to the study of chimpanzees in zoos and other captive settings. It is by far the largest ape research program ever undertaken. This research program aims to increase awareness about the plight of chimpanzees and also help in understanding their behaviour better. It also assists zoos to build healthier habitats followed by sharing and exchange of crucial information drawing from its research database, which further helps in enriching the lives of the chimpanzees.

#### **Objectives**

1. To share knowledge and information about ChimpanZoo International Research Program.
2. To discuss ideas on integrated and collaborative management, educational outreach, and data collection methods of chimpanzees in zoos.
3. To participate in networking and ideate collaborations with several zoos and educational institutions.

#### **Moderator**

1. Pranab J Patar, Ph.D., Chief Executive, Global Foundation for Advancement of Environment and Human Wellness, Delhi
2. Shweta Khare Naik, Executive Director, Jane Goodall Institute India

#### **Key Speakers**

1. Mr Patrick Van Veen, Chair Emeritus Global Board, Jane Goodall Institute
2. Dr Sonali Ghosh, Chief Conservator of Forest, Assam, India
3. Dr Abhilash Khandekar, Journalist, Co-Founder of The Nature Volunteers, Member of Central Zoo Authority, Madhya Pradesh, India
4. Mr Cameron Kerr, Director of Taronga Conservation Society Australia (Online)



## Summary of the Presentation and Discussion

**Mr Pranab Patar** began the session with a brief introduction. He emphasized zoos as being important part of animal conservation, generating awareness, sensitizing people, educating them on the importance of animals.

**Mr Patrick Van Veen** spoke about ChimpanZoo as a program that started for engaging students by observing chimpanzees. The advantage of that program was more students could be involved in research, starting from high school students, even primary school students. The goal was to engage young children in research while learning about chimpanzee behaviour. The program currently has three focus areas: research, enrichment and education. The objective of the program to learn about what is enrichment, how can aid in welfare and how can we encourage conservation programs and support them with research. He emphasized that humans have a responsibility towards animals.

He informed the audience about an experiment with a chimpanzee duo in which a mirror was put in their front and the female chimpanzee started to recognize herself giving proofs of their social intelligence. Also, chimpanzees show highly socially competent and can walk up to other chimpanzee and express peace after a fight. He said that:

**“The best way to get knowledge about primates is by ensuring that they have the best welfare and conservation, and education is an important tool for this.”**



**Ms Shweta Khare** informed everyone that India is one of the countries with highest number of zoos which goes over 100. She told about the collaboration of Jane Goodall Institute with Indian central zoo government at the time when a master plan was being prepared for Indian zoos. She observed that the people were calling the chimpanzees a bear and came to know about the big issue of animal trafficking in the country. Also, a female chimpanzee name Bhuri has many times escaped the enclosure. So, JGI was asked to intervene to find out the reasons behind the escape. Further, Central Zoo Authority proposed to incorporate Roots and Shoots program in 100 zoos. The program encourages young people of all ages to take part in action projects in three areas people, animal and environment.

Mr Pranab said that,

**“Conservation is not always about science. It is also about behaviour and emotional connect.”**

Mr Cameron shared information on Taronga zoo. The vision of the zoo is to secure a shared future for wildlife and people with the purpose to save wildlife, inspire people and to drive change across society.

They consider the questions like the conservation role of having an animal in their collection of species? Do they have the right expertise and environment and space to look after that particular animal, maintain a sustainable population, without needing to draw on animals from the wild, before having any animals in the zoo? He told that they have banned importing any animals not zoo bred. These are the important questions that need to be asked. So, there is a tool and it gives each of those categories a score under sustainability. They look at the legislator of framework, the availability of animals, usage of resources, ability to sustain a functional population, availability of expertise in the zoo, ethics and welfare frameworks of keeping animals. Before selecting an animal, a program called **The Five Domains for Animal Welfare**, considering **nutrition, environment, health, behaviour and mental state**, a science-based approach to analyse that animal is leading a good life. She shared the principles of animal care are highly considered in the zoo.

**“Zoos we need to understand animal’s natural life behaviours.”**

It is very important to keep changing the exhibit design according to the needs of animals. For example, in Taronga zoo, as chimps move through a forest, a lot of money is spent changing the ropes and the shapes within the exhibits. Also, annual health checks are done for animals. They have six monthly aged care assessments and immunization injections. With good behavioural, enrichment and great training programs, ultrasounds can be done now. The zoo authorities have reduced sugar content in animal’s diet. Moreover, there is an exhibit in the zoo made out of ropes, cables and fire hoses for animals escape in times of conflict and to create more volume and three-dimensional space for aerial works.

He also mentioned the use of artificial intelligence in mapping the behaviour of animals and maintaining their healthy population at the zoo. Along with JGI, they have worked in setting up a sanctuary in Africa and have undertaken a chimpanzee release program into the other national parks.

Dr Sonali Ghosh mentioned about the presence of wild lion tailed macaque at the Delhi Zoo.

Quoting the Indian Wildlife Protection Act, 1972, she defined zoo a legal place where animals are kept for exhibition to the public including rescue centres, circuses etc. but under various stringent guidelines taken care of by Central Zoo Authority (CZA). She mentioned that India is one of the leaders in the globe to ban circuses and have a role in the animal welfare movement in the world. Animals like Gharial, red panda etc. have benefitted from the captive facilities of the zoo. Also, **zoos act as green lungs in capital cities.**

Emphasizing the need of Zoo education, she said that people try to wake up sleeping animals in the zoo and always look for charismatic animals like tiger, elephant etc. but are ignorant of other species.

**“We are not able to sell our own indigenous species, our own native species and explain why they are important to the world.”**

This fascination for bigger animal results in animal trafficking. Globally, at least 15 percent of the total trade is of live animals especially pets directly impacting the conservation of animals in

their native places.

**World Aquarium** as a strategy for animal care is a sixth domain model now by adding human animal interaction. She said that zoo education curriculum is a dynamic approach. There is also an aspect of One Plan Approach meaning having a single plan to protect the chimpanzees., their conservation in wild as well as captivity.

**Dr Abhilash Khandekar** mentioned about the importance of zoos contrary to the opposition put forward by conservationists. He pointed out human-wildlife conflict as one of the reasons for getting a lot of leopards and lions, they have to be put into zoos and rehabilitation centres especially after the shut-down of circuses.

He mentioned that with time, the condition of zoos has been progressive in management with new knowledge, technology and experiences.

“We don't want all animals to be kept in the zoos but when there is no option left we have to keep them in zoos.” But he reflected on the fact that once the animals are in zoos, they were not able to be released back into the wild giving rise to the issues about handling human care emotions and also animals’ own right to live in a decent manner.

He emphasized that the ownership of zoos varies in Indian states and can be under forest department, municipal corporation or private ownership. Another issue with the Indian zoos that he brought up pertained to the lesser priority given to zoos by some officials. He observed that the upper class of the society goes to see a tiger in foreign country and have never visited local zoos and emphasized that, “A change in the approach of the people should be brought about as that will also bring in resources, more knowledge that we have not been able to do.”

With respect to chimpanzees, he said that more education, awareness and research is required. He mentioned that when the fight for Wetland Conservation and getting two Ramsar sites declared in Indore took ~25 years while his black beard turned grey pointing out the cost of conversation is high in the country. He concluded by saying that, **“Conservation is an important movement and youngsters and more educated people, industrialists and all other foundations must come and join together in the process.”**



Ms Shweta Khare asked Mr Cameron about the status of interest in less known species in zoos in Australia. Answering the question, he highlighted the increasing awareness among people in present times of biodiversity crisis, responsibility of zoo authorities as effective communicators and challenge of marketers to make these species in question exciting and interesting.

The floor was opened to questions from the audience.

**Question 1: When the Red Panda were released in the wild, how did the panda manage fend for itself in the wild? Also, since their habitat is shrinking, did the habitat accept the animals after release?**

*Answer:* Whenever a plan is taken up for conservation breeding, it is essentially a kind of a consolidated plan. The animal is ensured good protection in the national park so that habitat would have happened in parallel. The animals which are destined to go back into wild are rarely put into a zoo and are kept away from the people. Zoo includes conservation breeding facilities, rescue centres, transit veterinary centre etc. where animals can be treated and immediately put back in the wild. Similarly, red pandas were treated separately with minimum human contact.

**Question 2: Do the city planners take allocate enough space to Zoos? And are human-animal interactions in zoos taken care of? How can more compassion for the animals be generated?**

*Answer:* Handling human-animal interactions in zoos pertains to petting zoos and is included in the next generation of zoo reforms that might be wanted. But at the same time, it is important to remember that the animals are wild and so, zoo education can play important role. Innovations need to be done to attract people. Example Dehradun zoo has built-in cactus garden, big area made out of recycled plastic etc. In case of small zoos. The choice of animals matters.

City Master plans which are being devised and new cities even, smart cities, have no space for zoos because the land is considered only in terms of price only.

For increasing compassion among people, it is important to integrate the keepers because they are the best messengers since they are with animals, are passionate about them and have many stories of animals to tell.

**Question 3: Is there any exit strategy for animals in cases of fire, flood, etc.? Further, in a scenario of less land and man-wildlife conflict, how wise is it to get big animals like leopards in this whole soup?**

*Answer:* To prevent forest lands from vanishing, it is important to get species which may be a cheetah, Elephants or Tigers etc. For example: MoEFCC and Government of Madhya Pradesh (M.P.) upgraded the prey base of a particular National Park in M.P. and puts a lot of funds into making that land for cheetah and lions. Had the animals not been introduced into the area, the National park would have lost its importance. The base line is that the protection of more conservation is the only Future Hope.

**Question 4: There is a huge Resurgence in Capybaras in the United States and these are roaming the streets there freely. How do we combat this?**

*Answer:* Lesser land and habitat for animals is a challenge worldwide. The solution to this problem can be Community-centered conservation by working with local communities. Sanjay Gandhi National Park in Mumbai is an example of high density of leopards and people living happily.

Concluding the session, Mr Patrick emphasized on the importance of education, enrichment welfare and research along with engaging young people in research.

He mentioned about his research in which they observed the time, people stand in front of an enclosure and in Europe, a general 1 or 1.5 minutes was noted. With a zookeeper who tells a story, it extends to 6 minutes but if the audience is young and educated, especially children, it usually took their parents to take them away.

From university level to primary level, all students could sit and observe the animals. Knowledge on the importance of protection of these animals is built. Engaging zoos and sanctuaries around the world is an important part of ChimpanZoo program because this is a way to build conservation in the future and a sustainability future.

Mr Patrick said that they are involved in knowledge building through various methods like conferences, inviting keepers from all around the world to share knowledge, information and experiences. They also take care of the knowledge information about enrichment, building the right group structure, methods to take care of environmental enrichment, food enrichment and the method of introduction of species back into the wild.

In ChimpanZoo and through Roots and Shoots program, they try to engage young people by education and knowledge sharing. He mentioned that for every visitor in the zoo, it is important to ensure that they learn about primates and other animals along with the challenges for conservation. In ChimpanZoo, they try to engage Zoos and inform Zoos to share information. For example, having basic information like the IUCN conservation status of animals. Every Zoo visitor should learn about the challenge of wildlife trafficking and create awareness by activities like social media posts.

The session concluded with a warm vote of thanks to everyone.

## **Recommendations**

- There are two obligations humans must abide by i) best welfare of animals ii) conservation and education.
- It is important to understand the complexity in chimpanzees' social structure and include the same while building their enclosure which can be natural or man-made, under human supervision.
- There is a need to have broader animal collection assessment tools in zoos to select which animal to be considered for entry into the zoo.
- Nature Interpretation is an important part of zoo and conservation education which needs to be taken seriously in India. While talking of zoo education, it can be useful to emphasize on how interpretation can play a role and how interpretation can be developed.
- It is important to integrate the keepers as zoo communicator and upgrade their salaries since it is an important but poorly paid job.
- Policy makers and city planners should consider integrating zoos into city master plans.
- Exit Strategies need to be made for animals in cases of fire, flood, etc. in the zoo.



## Thematic Session 09

### DEMYSTIFYING THE MYTHS & REALITIES OF E.S.G.

#### Background

Global sustainability challenges such as climate change, biodiversity loss, social and economic risks including privacy and data security, demographic shifts, and regulatory pressures, are introducing new risk factors for investors that may not have been seen previously. As companies face rising complexity on a global scale, investors may re-evaluate traditional investment approaches. ESG is primarily defined as a triple-bottom-line approach that combines financial gains adhering to social and environmental norms. Moreover, ESG aspects have also become global standards of reporting and disclosures.

Today, ESG investing accounts for around a quarter of all professionally managed funds around the globe. Although institutional investors have a duty to maximize shareholder value, there is growing awareness that ESG ratings are an indicator of a company's long-term performance, including return and risk, as well as its ethical standing. In the years to come, there are clear indications that companies will begin to face increased scrutiny from governments, customers, and investors; those that do not promote ESG standards will likely face penalties—not only in terms of government-regulation, but also in regards to rejection from consumers and investors.

The environmental, social and governance (ESG) ecosystem in India is in the early stages of its evolution, with the securities regulator having made it mandatory for the top 1,000 listed companies to furnish sustainability reports from this financial year (2022-2023). India is also one of the few countries in the world to have a corporate social responsibility (CSR) mandate – companies with a net worth of Rs 5 billion (US\$61 million) or more (or turnover of Rs10 billion or more, or net profit of Rs5 0 million or more) are required to spend 2 per cent of their net profits on CSR initiatives.

This makes India a major market for sustainability solutions and green finance, and makes it critical to the evolution of the ESG ecosystem worldwide. The time ahead in India is undoubtedly fascinating with effective compliance frameworks in place for non-financial disclosures and is the next step in mandatory ESG reporting in India.

In the 4th ICSE- 2022, a parallel session on “**Demystifying the Myths and Realities of ESG**” was

held on 10th September, 2022 (second day) between 11:30 -13:00 hrs, wherein various experts deliberated upon the modalities of ESG and its role in achieving sustainability goals.

## Objective

The overall objective of the session was to present the various factors linked with concept of ESG and how they are going to be helpful in achieving Sustainable Development Goals.

## Summary

The discussion was focused on familiarizing the audience/online viewers with concept of ESG which is a new term linking the overall global drive towards sustainability with corporate functionality through the lens of its three components i.e. Environment, Social and Governance. The session brought forward various points like SEBI's circular for ESG compliance by top 1000 listed companies on stock exchange, linkage of CSR with ESG, several regulatory frameworks, rating parameters, role of education, responsible investment and carbon credits etc.



The session was chaired by **Mr. Praveen Garg, IAS (R), Advisor to Chairman Mobius Foundation and Former Special Secretary MoEFCC**. The moderator of the session was **Mr. Prashant Sekhar representative of Corp Stage Singapore**.

In the first round of discussion, the panelists shared their views over a common question, "**Are ESG and SDG concepts independent of or interdependent on each other?**", followed by specific questions posed to each one of them.

## **Welcome Address**

Welcoming the panelists and the participants, Mr. Garg highlighted the fact that ESG is an acronym in much vogue but perhaps less understood. ESG is essentially a concept of the corporate world and is guided by the ministry of corporate affairs and SEBI.

He elucidated the components of ESG - Environment, Social and Governance. He said the environment is a burning issue, it is evolving every day and is not a static concept. On the 'environmental' side, there are two sets that need to comply with, the first is as mandated by law and the second is evolving corporate entities on their own vision and idea on the environmental issues.

The second component of 'social' in ESG is to consider how a company's policies and operations impact its employees, communities, other businesses and society as a whole. This will also include the usage of CSR funds for the benefit of communities.

'Governance' is the third component of ESG which is equally important for the corporate sector. Corporate governance has to be ethical. Uses the fund of different stakeholders like promoters, shareholders, bondholders, bank holders and so on.

He spoke about SEBI's circular on BRSR, Consultation paper on blue bonds. He explained that green bonds will strengthen the framework by enhancing the scope of the definition of green debt by including new modes of sustainable finance. Blue bonds are related to water management and the marine sector, which requires hand-holding because it will have long-term returns.

### **Mr. Arunav Sharma, CEO and Founder, Rising Sun Energy, New Delhi**

ESG and SDGs are very much interdependent on each other. All three components i.e. Environment (E), Social (S) and Governance (G) have interlinkage with SDG goals.

#### *Follow up question*

**What are some of the myths about the ESG framework and whether ESG considerations have any negative impact on the financial performance of a company?**

#### *Answer by Mr. Arunav*

The largest misconception is that "ESG affects financial profitability." You can actually boost your bottom line values thanks to the several frameworks in place, such as the monetisation of carbon credits. Following the ESG guidelines helps companies reduce their carbon footprints while also assessing the underlying concerns. The reduction of carbon footprints can also be exchanged for carbon credits.

### **Mr. Spandan Sah, Director, ESG Research Foundation**

A wide range of topics are covered by sustainable development goals, which also apply to business communities and take a holistic approach to addressing the issues required for a sustainable world. However, when we consider their final outcomes, SDG and ESG are two sides



of the same coin. Corporate and business environments will need to concentrate on improving their operations in order to achieve the SDG targets by 2030.

*Follow up question:*

**Are there globally recognized standards on ESG reporting and how companies are rated on their ESG performance?**

*Answer by Mr. Spandan:*

ESG reporting is becoming more crucial as more regulations are being developed globally to adopt it. The demand for reports and declarations in line with environmentally and socially responsible practices is also being driven by consumers' awareness of their right to consume as well as their comprehension of environmentally friendly production methods and supply chain regulations. Global landscape has lot of different standards of ESG framework. For eg. Solar panel sector has Global Association for the off-Grid solar energy industry (GOGLA), GRESB is looking into ESG performance and portfolios of large-scale real estate and infrastructure projects, European regulation Sustainable Finance Disclosure Regulation (SFDR) is there to improve transparency in the market for sustainable investment products, and to prevent greenwashing. In Indian context reporting is being done as per SEBI'S business responsibility and sustainability reporting (BRSR) format, however several other standards like Global Reporting Initiative (GRI) and Task Force on Climate related financial disclosures (TCFD) are also being followed by many listed companies. ESG rating providers (ERP) are currently unregulated. ERPs do not appear to use uniform assessment criteria and attach different weighting to environmental, social and governance indicators.

**Mr Ashok Emani, Principal ESG, National Investment and Infrastructure funds (NIIF)**

ESG in investment environment asks for identifying the materiality. Direct linkages of SDGs with ESG can be established with SDG goal no 8 which underlines the importance of decent Work and economic growth as one of the major components of sustainability. The Who Cares Wins conference in 2005 first brought together institutional investors, asset managers, buy-side and sell-side research analysts, global consultants and government bodies and regulators to examine the role of environmental, social and governance (ESG) value drivers in asset management and financial research.

*Follow up question:*

**Why should ESG be embedded in banks in the context of investment professionals and what is socially responsible investing?**

*Answer by Mr. Ashok:*

The materiality must be identified in an ESG investment context. SDG objective no. 8, which recognizes the significance of decent Work and economic growth as one of the primary components of sustainability, can be used to draw direct links between SDGs and ESG. In order to examine the role of environmental, social, and governance (ESG) value drivers in asset management and financial research, the Who Cares Wins conference first brought together institutional investors, asset managers, buy-side and sell-side research analysts, global consultants, and government bodies and regulators in 2005.

**Prof. Meena Raghunathan, ESG expert, Bengaluru**

ESG is like a vehicle for SDGs to be operationalised by businesses. The fundamental difference is from where they arise. SDGs has a normative ethical stand of its own it aims to better the world environmentally and societally. ESG is more instrumental and it is about how does my business do good how do I de-risk myself by taking care of the environment society and governance.

*Follow up question:*

**How can we ensure that ESG is a value that is internalized and not just a fad?**

*Answer by Prof. Meena:*

Earlier the focus of businesses was to maximise the profit and to give a good dividend but now to ensure that ESG is not a fad and is not getting jumbled in the play of coining acronyms like CSR funds utilisation reporting, sustainability reporting, ESG reporting/rating then we have to internalise certain values which can be only achieved through quality education. Only education has the power to transform one into responsible citizen with an eye for not putting cost on the external environment for making profit.

**Dr Aditi Mishal, CSO, Govardhan Ecovillage**

The quantum of change that is required to mitigate air, water and soil pollution is huge. In this context ESG can be seen as quantifiable measure of sustainability practices.

*Follow up question:*

**How can we effectively establish a partnership between the ESG community and other stakeholders about realizing our common agenda which contains the sustainable development goals and moving together towards a sustainable future?**

*Answer by Dr Aditi:*

Partnership between corporate communities and NGOs is a goal-oriented technique to help achieve the Sustainable Development Goals while adhering to ESG criteria. NGOs are now expected to demonstrate their ESG performance when describing the project impact and asking for funding from companies who are ESG conscious She discussed the case study of Govardhan Eco Village and demonstrated how NGOs can address all three ESG pillars, namely the environment, social issues, and governance, by simply placing good governance practices , undertaking environmentally friendly ground projects like water harvesting, green energy, and waste treatment, and aiming for social upliftment through education, training, and empowerment. When it comes to ESG reporting and assessment, NGOs encounter a number of problems, including a lack of a customised framework and a mismatch between reporting requirements and on-the-ground action objectives.

## Open session

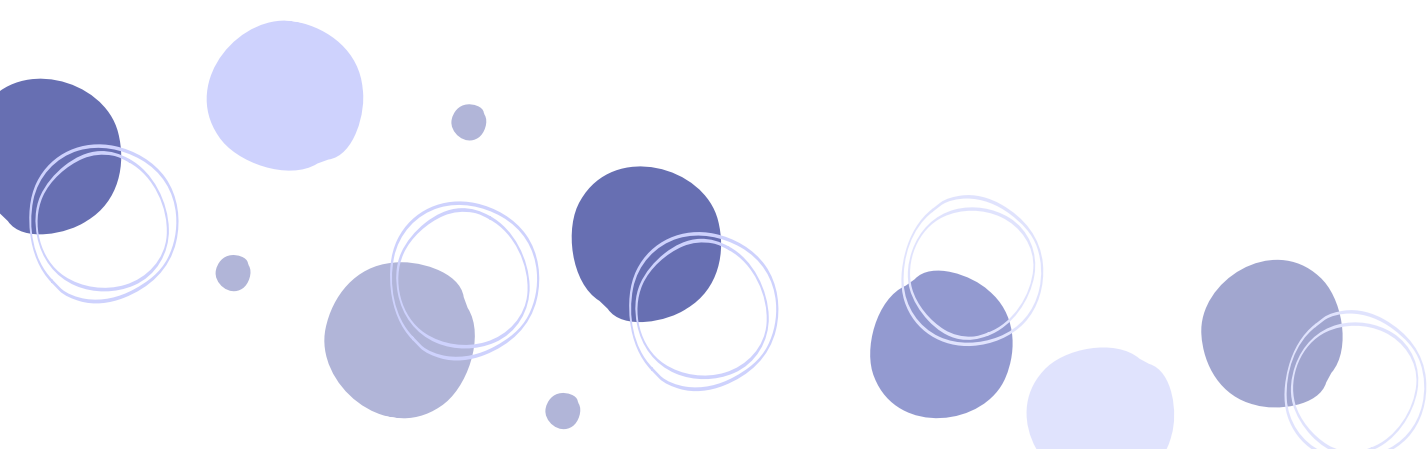
<p>Is there any rating given to carbon credits? Are methane conversions rated higher than carbon credit?</p>	<p><b>Mr. Spandan</b> There is no standardised methodology irrespective of whatever rating or score that you are looking will depend on kind of which rating agency that you approach and the context of the project.</p> <p><b>Mr. Arunav</b> Valuation of carbon credits are based on environment and social impact of specific project. Eg: Carbon credit generated from utility scale solar project will be different from carbon credit generated by a mining company.</p>
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### Chair's Concluding Remarks

ESG is not a fad and it's not a passing phenomenon. It is there to address the issues required to have a better world. It is a way forward and will keep on evolving as per the changing times. Regulatory steps taken by SEBI need to be supported by technical manpower and the corporate need to develop a proper mechanism of evaluation and monitoring.

### Recommendations

- Mandate the companies to spend 50 % of the CSR funds on environment related projects and support research work.
- The concept of ESG should be internalised in the younger generation by including it in the curriculum of the schools.
- Regulatory steps taken by SEBI needs to be supported by technical manpower and it need to develop a proper mechanism of evaluation and monitoring
- Give financial benefits/credits to the organizations for adopting greener techniques.





## Thematic Session 10

### ABU DHABI'S ENVIRONMENTAL EDUCATION PROGRAMMES

#### Background

Abu Dhabi is known to have extensive formal and informal Environmental Education programmes for schools, universities, and youth since 1998. Through several partnerships, Environment Agency – Abu Dhabi successfully developed innovative and impact related key programmes and initiatives targeting different age groups.

The session highlighted the Environment Agency – Abu Dhabi's key youth initiatives including environmental audits, community outreach projects, field trips, Eco club activities, training of educators and students including the latest virtually transitioned online platforms and environmental learning directory focusing on equipping students with necessary skills and empowering them to reach out to the community and make change. The session also touched upon the informal community-based programmes, sharing best practices, tools, events done in Abu Dhabi to engage the community during Covid-19 pandemic.

#### Objectives

- Highlight Abu Dhabi's environmental world class winning programs.
- Network, share and learn with stakeholders and exchange best practices to enhance the current programs.

#### Speakers

- Aisha Al Mazroui, Project Manager - Sustainable Campus Initiative, Environmental Information, Science and Outreach Management, Environment Agency, Abu Dhabi
- Amna Al Suwaidi, Environment Agency, Abu Dhabi
- Arwa Nabil Nazmi Diab, Environment Agency, Abu Dhabi
- Denice Henson, UAE Ambassador for Connect with Nature, Abu Dhabi (Online)
- Ghada Nabil (Online)
- Sohir Elkoueri

## Summary of the Presentations and Discussions

**Ms Aisha Al Mazroui** introduced the audience to environment agency, Abu Dhabi Emirates (EAD) as a government entity, established in 1996. It is committed to protect and preserve the environment, enhancing air quality, groundwater as well as biodiversity in the desert and marine ecosystem by partnering with other stakeholders, facilitate sustainable development and ensure environmental issues remain one of the top priorities of their National agenda. Some of the initiatives are as follows:

**1. Enviro-Spellathon:** Started in 2001 for school students from kindergarten to grade 6 to promote eco-literacy around local flora and fauna and the environmental issues in a way that is accessible for everyone. The agency has converted these books into electronic copies and around 1.8 million students from 92% of Abu Dhabi schools use them as their extracurricular activity.

**2. Sustainable Schools Initiative:** A school program launched in 2009 targeting the school community allowing youth and school students to explore the environment and learn ways to reduce their ecological footprint while creating a sense of ownership and responsibility towards the future by addressing their own environmental impact. It is segmented in two green audits which aim to change the school community. They have developed the green star ranking system which is a two-year cycle with a one-year mitigation period allowing schools to improve with the support of qualified judges. At the end of the cycle, schools are awarded a final rating certified by EAD which they can showcase to existing and prospective students as a testament to the school's environmental processes. The judges of the rating also give recommendations on what more can be done. Provisional rating includes color-coded the schools in first year so that they have almost a full year to implement the recommendations.

- The highest result for schools is five-star rating and seven stars is the maximum score for schools in the role of guiding other schools.
- As a result of these initiatives, paper recycling has gone up from 84% to 93% and green area has also seen an increment.
- in 2018, the Abu Dhabi quality and conformity council declared and published the green schools as a certified guide for Abu Dhabi schools and then, it was considered as a supportive project that helps achieve sustainable development goals in the UAE winning around five international awards and six national awards.

**3. School Eco-clubs:** These aim to empower the school students through capacity building, and teacher training.

**4. Field Trips:** To protected areas where students can explore the environment.

**5. Sustainable Campus Initiative:** It is a University program launched in 2014 which aims to strengthen and build up leadership capacity among youth between the age of 18 to 35 years. There are three main components in the initiative: including sustainability action project which is a tool used for university students to measure their resource usage per capita and impact on climate. Second is the sustainability action project which is a project done by youth outside their university campuses. It targets issues local issues and undertake community outreach projects to reduce the issue.

**6. Green Youth Majlis:** It is a volunteering platform for youth between 18 to 35 years of age to discuss various local challenges and do activities to raise awareness and also, reduce the negative environmental impacts. It is a host of various activities like discussions on

environmental issues regionally and globally, sustainability projects expert talks and much more. The main goal is to create opportunities for youth to enhance and share their knowledge, engage youth and participation in environmental activities. A platform, also considered as a conflict management system and activity update platform, has been developed to enhance the reporting system and communication between educators, stakeholders as well as EAD where university and school students get the data etc.

**7. E-green:** First environmental e-learning tool focusing on Abu Dhabi Emirates provides knowledge on various aspects of environment like air, biodiversity, climate change, culture and heritage, environmental management, etc. The objective of this platform is to support Abu Dhabi's conservation to establish the environment agency of lobby as a world leader for environmental education and best practices, creating opportunities for collaboration nationally and globally with universities environmental institutions, teachers etc.

**8. Mobile Application:** In 2020, EAD launched a unique mobile application that encourages the community to apply environmental practices and gain rewards by completely by completing daily environmental missions under seven environmental themes like reuse, conserve, etc and over 20 actions available under each theme. Approximately, 1400 people have downloaded the app.

**9. EAD Film Festival:** EAD in partnership with Zayed University features short films related to environment. The first and second edition was launched in 2020 and 2021 featuring 41 short films, activities and 1,700 attendees. The major aim of the event is to encourage the residents of Abu Dhabi and UAE to become more environmentally conscious.

**10. Environmental Ambassadors:** Through volunteers, EAD has developed green citizens, youth rangers, genius naturalists and green experts with the aim to inspire individuals to be responsible active citizens and influence others to adapt sustainable environmental actions. EAD is planning to develop 50 environmental ambassadors for the next 50 years.

**11. Environmental Talks:** These target different age groups. Environmental talks are for the community, youth talks are for youth, environmental education, especially aiming school students. Storytelling sessions are also for younger generation. The initiative raises awareness on different environmental topics.

**12. National Initiatives:** Abu Dhabi's national environment day is celebrated on 4th February every year. Also, they have six technical guidelines, 16 animations, 28 videos, 16 infographics and 17 educational resources. Moreover, EAD has recently developed a series of podcast with 10 episodes as season 1 which talks about various facets of environment and sustainability.

Ms Aisha concluded by saying that:

**“Within every challenge lies an opportunity to do better and improve the status quo through expertise research and insights.”**

Introducing Connect with Nature, a program developed by EAD with emirates nature-WWF, **Ms Denice Henson** told that it was launched in 2019.

- It is an educational program that celebrates our nature and drives the community to appreciate and protect our environment. It aims. to encourage and enlighten our youth to
- explore and discover natural wonders of the UAE. It provides a platform for use to converse
- with local and global leaders on sustainability.

- Connect with nature has structured different initiatives such as the Ambassador for nature, Nature Champions and Youth Leadership Bootcamp to equip our youth to lead environmental actions.
- The organization developed exciting activities including kayaking through the mangrove channels, scavenger hunts at different sites and using citizen science apps to help scientists gather data and many more.
- Reimagine Youth Majlis is a series of virtual youth circles in partnership with the federal youth authority under the theme UAE’s Reimagined Life, post COVID 19 in 2020. It was organized to educate community and to offer youth a platform to discuss and share their ideas and decisions with their fellow young people. The findings from the series were used to create a white paper report focussing on insights shared by UAE used on driving recovery for our nation.
- There is the youth leadership bootcamp, a three-week program to empower and enable Youth to implement environmental actions. The objective of the program is to develop knowledge and skills in conservation, climate change, biodiversity and green recovery and organize trainings led by team of experts and scientists, jointly with UAE. The participants were able to apply their trainings by sharing micro project ideas on the topic of plastic pollution, fashion industry and technology.
- In collaboration with EAD, Connect with Nature is forming the youth advisory council which is an opportunity to earn skills to solve real world problems and will support the efforts of EAD to convene all sectors of society for conservation and environmental transformation.

Quoting Late Sheikh Zayed Bin Sultan Al Nahyan, Founder and First President of the United Arab Emirates, she said:

**“A country’s greatest investment lies in building generations of educated and knowledgeable youth”.**



**Ms Sohir Elkoueri** shared initiatives of Al Ittihad National Private School, Abu Dhabi and began with its vision. She said that “Environment is student’s heritage and they want to build a generation of Heritage Guardians and Global Thinkers.”

- She shared that the school is in sustainable school initiative since 2010 and is taking small steps to allow the students to work for environment. The school has undergone the green audit, TOT (Training of Trainer) training of teachers, educational trips, celebration of environmental events and also, conducted virtual workshops in COVID pandemic School authority focusses upon increasing the greenery inside and outside the school.
- Houbara is a bird of national concern in Abu Dhabi since it is killed for hunting. Some of the students of Al Ittihad National Private School are ambassadors of a conservation program named: The international funds of Houbara conservation.
- The school works with Samsung and they are both involved in the eco-generation schools which tells them to why and how to minimize of use of energy and switch to solar energy and organized to visit to Korea also.

The session was concluded leaving the audience motivated to work for the environment.







**Thematic  
Session**

**11**

## **ORAL PRESENTATIONS OF CONTRIBUTED PAPERS**

The abstracts of review/research work, success stories, articles and case-studies were invited that align with the theme **“Building Connections and Partnerships for a Sustainable Future”**, with focus on sustainability education covering the following potential themes:

1. Sustainability Education in School Education System
2. Sustainability Education challenges in Higher Education Institutions
3. Sustainability Integration: Linking Formal, Informal and Non-formal Education.
4. Challenges of New and Emerging educational technologies and sustainability concerns.
5. Connecting with Nature: Nature Based Solutions
6. Education for Demographic Sustainability
7. Climate Education and Literacy

**Best presentations based on the themes were assessed and awarded during the closing ceremony.** The papers and posters were judged by the jury based on the criteria mentioned below:

1. Related to theme - 5 points
2. Aesthetics of Display - 5 points
3. Quality of Presentation and Originality of Work - 10 points

### **Jury Members for Paper Presentations**

- Prof. Suprava Patnaik, Principal Advisor, AIGGPA, Bhopal
- Dr Awkash Kumar, CEO, SAGE

### **Jury Members for Poster Presentations**

- Ms Radhika Bhagat, CEO, Sacred Earth Trust
- Ms Neha Midha, UNESCO
- Prof. Suprava Patnaik, Principal Advisor, AIGGPA, Bhopal

## Paper Presentation Awards

Best paper award was given to the paper titled **“New Partnership and Connections to Improve Climate and Ocean Literacy”** by Iwona Gin, Nausicaa, World Ocean Network, France.

The second-best paper was awarded to **“Sustainability Education in Higher Education – A Case for Teacher Education Institutions”** by Dr Astha Saxena, Guru Gobind Singh Indraprastha University, New Delhi, India.



The third-best paper was awarded to **“Role of Natural Fibre Reinforced Biocomposite in Packaging Sustainability: A Future Perspective”** by Vishal Srivastava, Sumer Singh and Dipayan Das, Indian Institute of Technology, Delhi, India.

## Poster Presentation Awards

The best poster award was presented to the poster titled **“Ash Sanitizer”** by Poonam Singh and Himangi Halder, Nature-Bodies, Eco-Club, Bilaspur, Chhattisgarh, India.

The second-best poster was awarded to **“Adapting the KAP Model for IEC Purposes”** by Ms Neha and Mr Lovish Raheja, TERI, India.





## SUSTAINABILITY EDUCATORS CONCLAVE

Environment and Sustainability issues have dominated the global discourse during the past 50 years since the 1st UN conference on environment was held in Stockholm in 1972. We are getting multiple warning signals of environmental deterioration in the form of ‘code red for humanity’ that should be taken seriously. The Sustainability education could be a major catalyst and a transformative agent to make the world a better place to live sustainably. It must emphasise on the need towards training this generation with the skills that they really need for next decades so that they may initiate the transition. It must bring in the concept of sustainability inside classrooms, but also within the community, towards collective action that could be embedded as a culture among learners and future generations.

The session titled “Sustainability Educators’ Conclave” aimed to initiate the discussion on the importance and role, educators need to play to make education a transformative agent towards achieving Sustainable development. What children learn in school shapes them for the rest of their lives. Environmental education equips students to navigate a changing environment with the proper knowledge of self-sufficiency, science and conservation. It is important to start early and teach children why the environment is important, how it should be treated and how they play a crucial role in the future of its existence.

### Objectives

- 1.To promote education for sustainability to discuss ideas, collaborative approaches and action plans for a safer and liveable planet.
- 2.To share the knowledge and information about teacher education and educator-focused program towards achieving sustainable development.
- 3.To participate in networking and ideate collaborations with educators and related institutions and networks.

### Moderator

**Ms Rekha Lalla, Manager, Green Campus Program, The Climate Project Foundation**

## Speakers

- Dr B. C. Sabat, Ex-Senior Scientific Officer, Department of Environment, Govt. of NCT, Delhi
- Ms Hiroko Shibakawa, UNESCO Chair on Research and Education for Sustainable Development, Assistant Professor, Okayama University, Japan
- Ms Malgorzata Gosia Luszczyk, FEE
- Mr Kinley Dorji, Faculty of Social Sciences, Royal Thimpu College, Bhutan
- Mr. Sashikant Das, Principal, Tagore Govt. Art and Science College, Pondicherry

## Summary of Presentation and Discussion

**Dr B. C. Sabat**, initiated the session as he welcomed all the participants and panellists and then shared the purpose of the session.

**Ms Hiroko Shibakawa**, joined virtually and shared her experience working with in-service teachers to develop a teacher education programme and platforms. Speaking as a researcher working long time in ESD and teachers training program she emphasized on how important is the continuation of teacher-training programmes presenting examples from Okayama City even when it is one of a leading ESD (Education for Sustainable Development) city. She said that “Key Secret is not only how to promote ESD in school and how to become regional centre for ESD in local communities but also how to develop our students and develop our own people.”



**Ms Malgorzata Gosia Luszczyk**, FEE, YRE spoke on the important roles of the educators as the agents of change for youth on the local level and they require our main focus. She emphasized on the need of training, opportunities and support for the teachers for sustainable development, as they play an important role to shape the future of young generation. She also shared a few of the initiatives, FEE has been working on to help the teachers and youth enhance their skills and knowledge for better future.

**Ms Monika Mahan**, Principal, DAV School, New Delhi shared her thoughts on the environmental education and the aspect of education which focused on the ancient Indian practices which were probably being forgotten over time. She said, it is time that they need to be re-adopted [ancient values] so that sustainability once again becomes the fore point of the students and they can welcome themselves to a cleaner and a greener planet. She also provided a glimpse of practices that has been mandated within the school based on the different aspect such as Climate, biodiversity, Outdoor Learning etc.

**Dr B. C. Sabat**, shared his thoughts on education sustainability and its inclusion in schools. He said, “If it is possible in a school, I think that it is also possible in our main environment.” He further shared few examples that are focusing towards the ESD and Sustainable Development goals, he also emphasized that it is important to inbuild this practical oriented learning in students and instead of only teaching them we must do action, starting with our lifestyle. He concluded by saying that, “by teaching students better, we have to cater large number of parents, those who are careless about the environment.”

**Mr Kinley Dorji**, spoke briefly about the restructuring of education system in Bhutan, and integrated western and traditional knowledge in current education system. He also shared that the restructuring of education is in line to integrating the philosophy of cross-national happiness and keeping up with the sustainable development. Under education Bhutan have four aspects the first one is Literacy, second one is schooling, the third is knowledge and fourth is Value. He concluded by stating that “Although Sustainability education is one of the pillars of sustainable development Goals but We believe that education should be actually the foundation on which rest of the sustainable development goal should be based.”

Next Speaker **Mr. Sashikant Das** shared his thoughts on how colleges as they are talking about the sustainability there are also some institutions which have been fighting on daily basis for basic needs. Speaking on the matter he shared his work of transforming a govt. college as he believed that development has to happens but not at the cost of environment. His works were praised by the audience. He further added that majorly the problem is not about the students but with mindset, it’s not the students’ mindset but of the teachers and principals that are leading these institutions. He concluded his talk by playing a short video taking on a journey to the green campus of Tagore Govt. Arts and Science College.

**Ms Rekha Lalla** concluded the session as she presented her thoughts on Green Campus Program, which is an Environmental Education Program, offering the students to make connections with ecosystem. The Program talks about the Energy, Biodiversity, Water Conservation, Waste Management and Clean Air. Sharing various practices, she touched upon all the aspects concerned within the program and impact these practices have created upon students learning.

### **Outcomes**

- Exchange of ideas, and opportunities for action-oriented projects among schools.
- To build motivation and create mindset for educator training, teacher-education for sustainable development.



**Thematic  
Session  
13**

**HANDPRINT METHODOLOGY  
EXPERIENCE SHARING**



**Background**

Handprint was launched in 2007 by CEE at UNESCO’s 4th International Conference on Environmental Education held at Ahmedabad, India. Handprint is a symbol of positive action, commitment, collaboration and care. Environmental issues have become a part of one’s life and so there is a dire need to practice actions that lead to future sustainability. This concept became core to several EE and ESD school initiatives in India and in several other countries.

A breakaway working session of 1.5 hours on sharing Handprint methodology is planned on day 2 as part of the conference to share experiences and reflect upon learnings so far. The session is envisaged to be attended by teachers, EE/ESD experts, educators, practitioners, etc.

**Objectives**

- To share experiences linked to application of Handprint methodology in school education from pre-primary to higher secondary level.
- To examine the role of Education in using Handprint as a powerful tool for promoting positive actions among young people
- To consolidate recommendations emerged through discussions.

**Focus questions for discussions**

- How can Handprint methodology be adopted in the entire school system?
- What is the role of teachers in inspiring students to adopt individual and collective handprint actions?
- How Handprint methodology is closely connected to the recommendations of NEP 2020 and Goal 4 and Target 4.7 of SDGs?

**Speakers**

- Mr Kartikeya V. Sarabhai, Director, CEE
- Ms, Preeti R. Senior Program Director, CEE Lucknow Office (Virtually), CEE

- Ms. Archana Panicker, Program Director, CEE
- Ms. Archana Bhatnagar, Senior Programme coordinator, CEE
- Ms. Khushbu Shah, Programme coordinator, CEE
- Mr. Arnau Macià Pou, International Coordinator of Education at Foundation for Environmental Education (FEE)

**Mr Kartikeya Sarabhai** reflected upon the Handprint methodology from its genesis. He said that the concept emerged from one of the CEE's Programmes--Environmental Education in Schools of Andhra Pradesh (EESAP 2000 to 2008) inspired by a girl named Srija, visiting the Holy Mary School in Hyderabad, Andhra Pradesh (AP) who gave her handprint when she was participating in a project of the CEE AP, involving acting for sustainability. She was 10 years at that time. The point came up in discussions that no institution can have zero footprint because of the utilization of resources and it was highlighted that there should be a measure of potential of doing things for which handprint came out as a symbol. This concept and was launched at UNESCO's 4th International Conference on Environmental Education held at Ahmedabad, India in 2007. He added that Handprint methodology, a transformative concept towards positive action, is the first concept of contemporary times starting from India discussed in international dialogues on education. People all over the world have picked handprint concept.

**First, CEE registered the handprint mark but then, the team felt that it belongs to the world and deregistered it, putting the mark in creative commons.**

He mentioned that handprint was mentioned in top 10 environment education ideas in Times magazine but on the name of a Harvard Professor. So, Mr. Kartikeya Sarabhai stressed on the need of acknowledging CEE and India for originating Handprint Methodology since many people are using the concept now-a-days. He highlighted the time of late 1980s when CEE came up with its first book 'Joy of Learning' which focussed on activity approach of education rather than 'chalk and talk' type approach. It is actually taking on-ground action, however small it is impacting the planet for which people don't have to be above 18 years of age to make a difference. CEE promotes handprint concept in each of the SDGs and have narrowed down the 169 targets to 30 targets in which actions can be taken.

Taking the session further, Ms Archana invited the audience to suggest handprint actions for various age groups comprising pre-primary, primary, middle, higher and university level as an educator and decision maker.

Audience shared their experiences with handprint and gave many suggestions.

- Ms. Renuka, teacher from ASN senior secondary school, Delhi, told that she and her students started a waste international campaign, a class project in which students in the eco committee performed a survey and found that there is always litter under desks and introduced a new bin for Multi-layered plastics (MLPs). Higher grade students were made to focus on packaging. A parent who was a university professor and ran a sustainable development centre took a packaging webinar with children. **Students played being plastic detective at home** and checked the plastic grades and process of recycling them. They catalogued the different plastics used at home. The school has collected 11,000 MLPs and tied up with Safai Bank of India which will take the plastic to cement factories as the collection reached 15,000 in number. The school has further got other 32 schools involved by doing orientation session with them. Students go on weekly MLP collection drives and everyone from orientation session does the survey at home leading to investigation of kind of MLPs being used, contemplating on ways to reduce it and reflecting on consumption pattern.

- Ms Sangeetha shared her experience of leading an environmental education program for a year with an organization called Bhoomi wherein they helped students of 13 government schools to set up composting kitchen garden and waste segregation kit under the program named Eco Champs. Thus, developing sustainable circle in every known school. The team created pots and grew terrace gardens also.
- Students in the audience highlighted the importance of young entrepreneurs, youth for green jobs and ecopreneurs and put forward the examples of Oliver, sand that absorbs CO<sub>2</sub> from the atmosphere, crafts from waste flowers etc.

**Ms Preeti Rawat** introduced the Handprint Methodology which was officially launched in 2007 and 27th November is celebrated as the Global Handprint Day.

Sharing examples of how international handprint network is working and what kind of initiatives are being done through it, she said that handprint was evolved through a network of five institutions from countries including Germany, Mexico, South Africa and India. CEE and NCERT are the partners from India. Handprint symbolizes a lot of things in every culture especially in India. **Engagement and common good** is a core idea with which this handprint care concept evolved. This approach is like a completely teacher mediated approach where teacher is a key facilitator who helps students to start doing the inquiry-based learning. It is also a curriculum approach in which a true story based on the local concerns triggers a discussion that leads to framing action. This is a four-quadrant model where it is not important to start from quadrant one but can begin with action followed by discussion and building critical thinking on it. On a similar idea of Handprint Methodology, a campaign called **Paryavaran Mitra** was launched around climate change which evolved looking at how children could be engaged and create a young leadership can be created where their awareness knowledge is built and they feel a commitment and the potential to meet the contemporary environmental challenges. There are many schools which have taken up projects like reviving pond and taking care of green spaces, the learnings of which are then shared with students.

**Mr. Arnau Macià Pou** introduced everyone to FEE's global action days, known as **'My Actions Matter'** campaign. It demonstrates how small individual handprint actions can have a significant impact on the well-being of ourselves our communities and our planet.

Introduced in 2021, the 21 days global action days campaign invited participants to work upon actions towards tackling environmental pollution biodiversity loss and climate change.

In 2022, projecting global biodiversity was the only focus. Participants were invited to join over five positive hand green actions to protect, restore and celebrate global university over a period of 10 days. These are:

- 1. Nature Dipping** - Students would spend some time outdoors in a green space, standstill relax themselves and appreciate their surroundings and nature. Finally, they reflect upon this experience, and share this experience with their families, friends and in their local communities.
- 2. Nature Detectives** - In this, participants go outside in the field and try to identify some native plants and wild flowers, take photographs and share these with their community.
- 3. Life in Danger** - In this, participants choose an endangered species and think about ways like posters, letters, documentaries etc. through which they could raise awareness about the species within their local community.
- 4. Labels to Look For** - Participants look around at home and try to identify how many environmental labels they could find on the food products they have stored at home and then, they have to find out its meaning. This will help them in considering environment while buying things next time.



**5. Green Party** - The students celebrate their work, their achievements over the ten days and they could actually decide to engage in very different activities like they could set up bird feeders within their surroundings, participate in clean ups etc. Basically, it was very much an open activity but the main purpose was to get the students to engage in a hand print action.

**Global Action Days** has more than a hundred and fifty thousand participants from 73 countries. FEE has also been running its biodiversity campaign and has hosted a biodiversity best practice competition and a biodiversity lesson plan competition with many great best practices received from over 41 countries including India.

Mr Kartikeya Sarabhai shared information on Sustainable Development Goals Handprint Lab, a program at higher education level. It is a four-credit program at the university level, may engage students from 9th standard also. Each institution selects a geographical area outside. This is called a local area study and sustainable action pedagogy for higher educational institutions. The pedagogy involves first showing that area, putting boundaries to it, and then in a room, discuss all SDGs. Then, slips of doable projects of identified 30 targets are written on slips which are performed by a group of 3-5 students.

Participants then, put up their projects on a demonstration like a fair and this is evaluated by the teacher and community people. These marks add up for student's coursework.

Another initiative of CEE is **Tide Turner** which is United Nations Environment Program. Initially, CEE and WWF were the partners and were later joined by many others like Bharat scouts, NCC etc. The program started off essentially as an online certification program with three levels starting with multiple choice questions to third level which is actually taking some action and reporting on it.

**Ms Khushbu Shah** provided information on the Eco-school program, an international educational program, which provides opportunity to connect with the real-life world. This program has a seven-step pedagogy where the teachers are just facilitators. Students design the handprint actions for their sustainable campus like kitchen garden, plastic challenge, clean up drive.

Sharing on how the component about Water and Sanitation Hygiene (WASH) education can be taken to the classrooms or into the action through a handprint, **Ms Archana Bhatnagar** said that she works with government schools to motivate children to understand the local concerns and come up with the solutions of their own. She explained that teachers are addressed through teacher trainings. Also, children student councils are responsible for certain small responsibility given by the teacher. Student council are made to understand their roles as monthlies. These help government schools to understand and maintain the infrastructure and the system into the school. Children are made to reflect on the infrastructure available in school and the areas that need repair and what all things are to be maintained by themselves.

## **Recommendations**

Preparing activity books with recycled paper and making recycling of paper and its subsequent usage, should be a part of preschool policy.



## Thematic Session

# 14

## UNEP & HIGHER EDUCATION

### Background and Introduction

Youth (15-29 years of age) constitute nearly 1/5th (366 million) of the total population in India. Approximately 37.4 million youth are enrolled in higher education programs in the nation. To reap the demographic dividend of this population and strengthen both formal and informal education on the environment and sustainability within HEIs in India, UNEP has been engaged in implementing and supporting both formal and non-formal higher education initiatives through various partners including UNEP's Youth Education Alliance (YEA!), UN agencies including UNESCO, UNICEF and ILO, universities such as Tongji University and the University of Oxford, and more. UNEP's higher education work focuses on influencing institutional change and working towards wider societal transformation, while always keeping youth at the heart of its work. In this session, UNEP showcased and highlighted its HE initiatives like **Race to Zero**, **Nature Positive Universities** etc.

Some of UNEP's key higher education interventions and resources include:

1. The **Race to Zero** is a global campaign to mobilize leadership and support from all sectors for a healthy and resilient zero-carbon recovery.
2. **Nature Positive Universities:** UNEP and the University of Oxford recently launched a global network of Nature Positive Universities, as part of the UN Decade of Ecosystem Restoration, to prompt the prioritization of nature and its restoration within the higher education sector; in their operations and supply chains, on campuses and within the cities where they operate.
3. Shifting behaviours on campuses through the Little Book of Green Nudges (LBGN), which is a quick guide to reducing a campus' environmental impact through behaviour change nudges.
4. UNEP has also developed a Sustainable University Framework to help define what constitutes a sustainable university and support the creation of pathways to recognizing and becoming one.
5. UNEP is in the process of facilitating an India Green University Network, which is envisioned to be a platform that would help higher education establishments in India to Convene, Communicate, Collaborate, Catalyze and Commit to integrating, and if possible, mainstream the environment, and sustainability across their institutions. UNEP held a dialogue with all the relevant stakeholders followed by a survey which shows the way forward for establishing such a platform for learning and sharing.

## Objectives:

1. Spread knowledge of UNEP higher education initiatives to various concerned stakeholders from India and other participating countries
2. Connect and network with different sectors- Govt/ NGO/ Academia
3. Showcase Higher education work in India
4. Learn and share best practices
5. Receive expressions of interest in joining and building out a Nature Positive Universities hub in India.



## Introductions

### UNEP and Higher education – Mr Sam Barratt, Chief, Youth, Education and Advocacy

- **Ms Gayatri Raghwa** commenced the session with a presentation on IGUN forum, a forum of like-minded academic institutions, envisioned to be a platform that would help higher education establishments in India to Convene, Communicate, Collaborate, Catalyse and Commit to integrating, and if possible, mainstream the environment, and sustainability across their institutions.
- IGUN forum is a call out for action to the universities which can commit today. It will be an autonomous entity, in collaboration with the institutions that successfully go through the IGUN's mission; IGUN by all and IGUN for all; for an interim period of 8-10 months with a sense of ownership.
- Referring to the benefits of partnership to institutions upon joining the IGUN forum, she pointed out the development of a newsletter with achievement and effort stories to be shared nationally and internationally and exposure to the subject experts via webinars for networking, know-how and regular updates of activities being undertaken at global activity. She said that, **“Let's take baby steps but let's get it going”**.

- Giving the special address, Mr Sam Barratt began by acknowledging higher education as: **“World wouldn't be the one we have today without higher education and without the great gift of what universities bring to the world.”**
- Addressing the need to include nature positive universities in tackling climate change, he said that working with universities and young leaders is fundamental if we're going to give ourselves a fighting chance of beating the challenges of climate change that are on our doorstep.
- Universities are fundamental in starting to hold a barrier against what might come next by making sure that sustainability is built into everything and everybody. He mentioned that institutions need to build skill sets and the mindsets to be part of the transformation, we need to see in the green economy.

## Race to Zero Initiative

### Speakers

Carina Mutschele, Youth and Education Officer, UNEP

Dr Durga Kamat (Project Executive, Not Zero-NetZero, SCCN)

- **Ms Carina Mutschele** introduced the audience to UNEP's Initiative Race to Zero, a global campaign to mobilize leadership and support from all sectors for healthy and resilient zero carbon recovery. Over 1,200 universities have joined it.
- It is a global campaign run by UNFCCC and focusses on rallying leadership from all sectors including businesses, cities regions, investors and universities to get them to achieve net zero. The goal of the campaign is to make a healthy resilient carbon recovery that prevents future threats, creates decent jobs and basically, unlocks the sustainable growth.
- Registering for this initiative is a four-step process involving pledge at the level of head of the organization to setting a target for reaching net zero as soon as possible with 2050 being the very latest and this also involves setting an interim target of 2030. The next step is to make an annual action plan followed by taking action. The last step includes publishing the work, so, other members also commit to report on their progress at least once a year to show their progress.
- There have been 217 Indian universities that are part of this campaign representing almost 30,000 students. If any student wants his/her university to be a part of Race to Zero, UNEP can help them get an official letter of invitation to university and then, the student can help get them on board. Once they tell what their plan is, UNEP can support them with resources and by providing a Race to Zero certificate which will help them to show their actions on global scale.
- **Dr Durga Kamat** talked about smart campus cloud network which is a network of 400 universities and this “Not Zero Net Zero” carbon neutrality pledge which is about carbon neutrality in the campuses is a part of the network.
- The basic aim of this network is to train the students in the university so that they get a practical knowledge on SDGs. The activities are initiated in the campuses.
- The universities get started by registering to the smart campus cloud network, signing the pledge for carbon neutrality, doing baseline surveys followed by drafting the road map for action. Then, actions are taken to start the reduction of the emissions and the reduction activities are all done by the students. They are first trained with the experts.
- The activities are shared on a dashboard of smart campus cloud network which can be measured and managed. An example of this is the Fergusson College, Pune where they pledged to make their campus single use plastic free from 2019 and have achieved it.

Further, **Mr Saurabh Punamiya**, Climate Champion and former special adviser to Ministry of Environment, Forest and climate change, Maharashtra was asked regarding the effective collaboration of universities with cities and their wider communities to accelerate the race to zero.

- He emphasized that climate action is no more about the government but also universities. It is kind of the first point of contact for the students to come up with their leadership and engage with the governments at large.
- Universities together can create a larger movement through its students' network.
- They should take up a larger role in our civil society, participate and create larger movements and tell their city commissioners about their demands so that policy decisions involve young people also.
- Universities have a big role to play in society. They are producing the next generation of leaders, politicians, business owners etc. So, there is a lot of potential that can be tapped by addressing the bigger generational difference.

## Nature Positive Universities

### Speaker and Facilitator of Q and A

Prof Emily Stott, Department of Biology, The Interdisciplinary Centre of Conservation, Oxford University

Ms Carina Mutschele

- Dr Emily Stott spoke about the growing network of almost 500 higher education institutions promoting nature restoration.
- She mentioned about the severity of climate change and species extinction emphasizing on the need to build net carbon zero future.
- Nature positive means restoring the species and ecosystems that have been harmed by the impacts of the university and its activities and enhancing the positive impacts on nature linking activities on- campus as well as those interactions involved with the supply chains.

University of Oxford also carried out Race to Zero. They keep record of the food consumption on campus, travel records for staff and students, look for new construction materials for offices etc. This data has been used to find midpoint impact in terms of biodiversity impact. The activities with maximum impact turned out to be laboratory use things like the plastics, chemicals and paper consumption.

- The University is using a framework called the **conservation hierarchy** which has four steps Refrain-Reduce-Restore-Renew in order. In India, there's a network of about 60 universities in this program and the first institute to boldly make a nature positive pledge was Providence Women's College, University of Calicut, Kerala. The college has started a great initiative of putting codes onto trees on campus to educate students of their importance, using classical dance to represent sustainable development goals, communicating our relationship with nature.

The initiative invites positive student ambassadors and this will be a global network where students will meet online once a month for volunteer work. They will be provided a student toolkit and it might be things like partaking in nature restoration whether that's tree planting or mangrove restoration or litter picking etc.

## Little Book of Green Nudges

Discussion - Do Nudges really work? Between pilot LBGN campuses and NGOs

Dr Poonam Kumaria from Miranda House / Dr Kawal Gill from Guru Gobind Singh college of commerce in conversation with Dr Fawzia Tarranuum

- Ms Poonam was asked regarding the importance of behavioral changes in bringing sustainability on campuses. She mentioned that little book of greenness was a program started online during COVID times when students were at homes only. In meetings with Ms Poonam, students came up with innovative ideas, created Instagram page and then, spread messages, infographics through social media and emails with the principle of awareness realization and collaboration.
- A lot of awareness campaigns earlier online and then, offline were organized making audience aware of climate change. Now, the program has been combined with the curriculum. They also have 11 research reports based on awareness programs. The main objective of this program is to reduce material consumption. The LBGN book has got a set of ~ 45 nudges which are very little things that universities can do or even schools can do it on their campuses.

## Sustainable Universities – National Contexts and Global Practice

### Moderator

Gayatri Raghwa, UNEP

### Speakers

Dr Raman from SBSC, Delhi

Prof Prithvi Yadav VC, Symbiosis University of Applied Sciences Indore

Ayesha Al Mazroui (Environment Agency- Abu Dhabi)

Mr Sam Barratt

### Ms Gayatri to Dr Raman:

*Question 1:* In Delhi, what are you required to comply with in terms of environment and sustainability within your campus as a matter of law/rule?

*Question 2:* Have you been successful in compliance and do you face some challenges do you need support in the same?

- Dr Raman answered question 1 by quoting the UGC's guideline for compulsory environmental education as a six-month compulsory assessment course at undergraduate levels with sub theme was on environmental practices having sustainability and sustainable practices.
- He further informed that with the new education policy, University of Delhi is adopting a new curriculum course framework in two parts, one as environmental science and other as sustainable development which will be taken by the students in two different semesters.
- Another, the university ranking framework NAAC in their seventh criteria considers social responsibilities and initiatives and the environmental consciousness visible in campus.
- Considering the challenges as per above mentioned question, Dr Raman mentioned a lack of institutional approach and the financial support. But, he highlighted that students volunteer for these activities and take up environmental issues as an extracurricular activity. Keen students also join different societies and work through them.

- **Prof Prithvi Yadav** spoke about central India and pointed the lacking in the university setup. The awareness initiatives are coming forward, taking care of the campuses and environment but is still lagging in the university campuses. His university, being an independent institution in the larger geographical area, they were asked to report their ground water usage. Government put the self-restrictions on the large universities (area-wise) which was well- accepted by university.

He concluded by saying that, **“We would motivate our students our faculty to become the part of environmental groups so that they are self-motivated and also motivate the society, neighbours to be more responsible towards the sustainability and environment.”**

- Answering the question, Prof G D Sharma, VC, University of Meghalaya mentioned that earlier, students participated in many activities through clubs but it was not considered formal education. So, in terms of marks, students did not receive any benefits.
- As per National Education Policy, 2020, if students are doing by interest, it is made as a course into credits. 15 hours in a semester makes one credit. So, following same activity can replace course. Skill India has brought out the uniformity of skill courses. University of Meghalaya has taken 20 villages in its surrounding as adapted villages. Though Meghalaya receives high rainfall but in winter months, it has no water. So, the university set an example in this by doing natural harvesting, not putting roof.
- New aquatic biodiversity has emerged there and this is also part of their academic activity. To make the processes sustainable, they are indulged in mushroom culture, apiculture, organic farming etc. The change was possible by involving ground level people and it is them who suggested that the education should include all these components.
- Ayesha Al Mazroui was invited to reflect upon the global scenario of the question. She emphasized that Abu Dhabi environment agency is dedicated to youth. Its sustainable campus initiative has three main goals: to empower youth to become pioneers of change to positively impact the community as well as tackle environmental issues and empower them to instil leadership capacity as well as strengthen their skills in this field. So, this initiative targets first-rate education and international goals (sustainable development goals 4,12,13,14). This initiative has three main components including green campus audit which entails reducing the footprint and increasing the hand print.
- It involves a tool used by students to calculate the amount of resources being used in their campuses. Another project is Sustainability Action Project. It is a community-based outreach project that involves detecting an issue in the society outside the university campus and acting on it. The third component is green youth majlis which is for youth in general who will look into local issues and have events activities to tackle these and help prevent or reduce them.
- Green campus audit universities have reduced per day 80% of water, over 50% of energy and over 90 percent of waste increasing more than 35 percent of green areas.
- EAD supports universities by all means. As a part of green youth majlis program, they have around 180 members and 700 participations have been done with volunteers since 2015 who have further participated in more than 43 events with a total hour of 1580.
- They host environmental workshop, monthly environmental talks, podcast etc. to expand and catch youth’s interest. She emphasized that small acts of environmental concern like closing the tap while brushing your teeth should be taken seriously.
- In a survey, they found out that youth are highly aware of environmental and sustainability issues but in terms of action, they lie low. They have launched a unique mobile application

called BAADR that encourages the community to apply environmental practices in which people earn points for doing good environmental practices. Users can also get free gifts from selected different vendors from seven different themes.

Ms Gayatri put question for Mr Sam Barratt: **What does a sustainable university mean?**

- Ms Sam Barratt answered that there are four basic areas through which it can be defined: one is what can be done on environment climate, the other one is what can be done with people in society working within one's community, third is administration and governance and last one is training and research. There is a need to look at them on different levels with strong compliance and collaboration.

Ms Gayatri concluded the session by saying that sustainability is all about everything and UNEP has developed a guideline framework for sustainable universities encompassing various aspects of sustainability and invited the audience to have a look at it and sign up for the same.

Mr Sam Barratt proposed the final vote of thanks and concluded by saying that, **"The only metric for success is action and the success of the event should be judged on the basis of action taken and not merely the happening of the event."**

### Recommendations

Environmental education should be sustainable and also it should now be as per our traditional knowledge.







**Thematic  
Session  
15**

**DIGITAL SOLUTIONS TO  
SUSTAINABILITY EDUCATION**

**Background**

The Sustainability Education is not confined to classrooms but is more engaging in natural and real-life environments. The digital interventions and the adoption of modern tools and technology have revolutionized the Sustainability Education by triggering substantial changes in education and approaches to teaching and learning. At the same time, it has also created plethora of opportunities for the educational technologies to foster the development of inclusive and sustainable society. The development of critical 21st century skills like creative thinking and problem solving requires innovative and collaborative learning mechanism to nurture specific learning across the boundaries of time and space. It requires capacity building of teachers and educators to harness these opportunities through imparting training and developing specific skill set.

The use of digital smart solutions has transformed the role of teachers and educational environment involved in Sustainability Education. Digital learning environment help to prioritize sustainability and environmental initiatives. With growing demands of environmental responsibility, safe digital solutions for abating environmental problems and creating sustainable society can make substantial contribution in meeting the sustainability goals. This is also in line with the National Education Policy 2020 which highlights inclusive and equitable quality education, holistic and multidisciplinary education, the promotion of lifelong learning opportunities and achieving sustainable development.

As the students at all levels expect to learn about the sustainable solutions, it is time for the educational institutions and Universities to provide these solutions that meet and encourage these expectations. It is very likely that the students choose an institute/ university based on its sustainability initiatives and green commitments. In the pressing environmental circumstances, the digital solutions will make the educators efficient and adaptable to create student centric learning experience in the classroom. With this notion, more and more education providers are learning about the digital solutions to sustainability education.

In the session, the panelists deliberated on the digital solutions to the varied sustainability issues. The session brought in interdisciplinary research in the domain of sustainability

education to discuss ideas, problems, challenges and solutions for changes in society, which are brought by technological innovations and digital solutions. In the session, the panelist discussed the importance of innovative teaching learning pedagogy in sustainability endeavors of educational institutions. The session highlighted that the open and distance education with its flexible, customized, integrated, multidisciplinary curriculum and programs coupled with technological support services can play a crucial role in imparting sustainability education.

### **Objectives**

- To deliberate on the digital solutions to the varied sustainability issues.
- To explore the role of emerging technologies in education sector to transform the teaching learning process.

### **Moderator**

Dr. Deeksha Dave, Assistant Professor, Environmental Studies, School of Interdisciplinary and Trans-disciplinary Studies, Indira Gandhi National Open University, New Delhi.

### **Speakers**

- Prof. Shachi Shah, Director, SOITS, IGNOU
- Dr. V. Venkat Ramanan, Assistant Professor, Environmental Studies, SOITS, IGNOU
- Prof. Jaishankar R Nair, Professor and Chairperson, School of Informatics (SoI), Kerala University of Digital Sciences, Innovation and Technology (KUDSIT)
- Ms Saumya Sil, Revenue Officer, Government of West Bengal

### **Summary of the Presentations and Discussions**

The session began with the opening remarks by Dr. Deeksha Dave where she set the tone of the session by highlighting the importance of digital means and innovative technologies to foster Sustainability Education. She also introduced the panelists to the participants.

**Prof. Shachi Shah** highlighted the role of distance education in promoting sustainability endeavors. In her address, she spoke about the initiatives of IGNOU and emphasized the importance of sustainability education. The eight million people who are not having the access to internet connection, not having access to technology, not having even access to education, hence causing technical divide. Although there is paradigm shift because of this digital evolution such as artificial intelligence, blockchain technology, simulation model, the virtual labs but at the same time there are the areas where there is no internet available. During COVID most of the universities or especially school, they had to shift towards the digital education, at that time IGNOU has provided quality education through online portal to millions of the students. Recently IGNOU has launched more than 35 online programs, more than 151 Swayam courses keeping in mind the National Education Policy 2020. During the UN decade of Sustainable Development (2005-2014), programmes IGNOU launce various certificate and diploma programmes . The university has its own 4 SwayamPrabha channels broadcast educational resources from 24\*7. Likewise, it also has its own eGyanKosh that is a digital library where all the e-content of the resources are available. There is a need for further evolution of digital education for transformation of digital means for sustainability education.

**Prof. Jaishankar** explained the importance of digital interventions in addressing the problems related to environment and sustainable Development. He started his talk by mentioning that today over so many generations what has happened is that human life on this planet is essentially unsustainable and you just cannot make it sustainable under the present context otherwise you have to change the whole system. As rightly said by Albert Einstein “We cannot solve our problems with the same thinking we used when we created them” therefore to undo whatever has been done education is the most important and most transformative tool that we have on this planet. Education has to be transformative, it has to transform the system as such as well as the education process also has to change. Today we are living in an era where the rate of change of technology is much faster than our own progression rate. We need to do is the first an initial focus of sustainability education should be concentrated on urban centers where we are highly unsustainable then what we need to teach the folks about resilience because anyway our action is going to cause changes on their lifestyle. He further added that can we not think of ascribing individual sustainability score and the score can be fixed in any range, that score should be reflected in professional services that means if an individual to get an increment, the score should be within this level or else will lose a promotion chance. This initiative will make everybody to study or learn how to become sustainable and don't have to teach anybody. Therefore, everyone will consciously start following sustainable behavior.

**Ms. Saumya Sil** raised the issue of marginalized sections of the society and spoke about the digital divide in the country. She started her talk by posing question that whether digital educations cover all the three sectors Environmental, Social and economic. She added that Sustainability means something which has got a positive impact on each of the three sectors and whether digital education is able to covers all these aspects. She talked about digital divide as in today’s education system, we have to literally remember and write down and then we have to apply to our lives but earlier whatever we were learning, we were applying to our lives. The first world-class education institute or the first university of the world was in India, The Takshila University and they had sustainability education embedded. Even before 2000 years back, everyone was living much more sustainably then we can think of today. We did not have digital solutions back then but it's not like that the digital solutions are the only way to sustainable education. However, we have initiatives from the government to actually penetrate digital education into the system especially for the students living in rural areas who did not have access. Digital education should not only provide courses but it should actually integrate deep into the society first to get rid of all the social issues. Unless we bring girl and boy to the same platform and remove the gender divide first before thinking about implementing digital education, Sustainability can never be achieved. Hence first we should integrate education then sustainability and then maybe digital because digital will come much later.



**Dr. V. Venkat Ramanan** explained how digital initiatives can help to meet Sustainable Development Goals and reiterated the importance of technology in agriculture and disaster management. He said that there are challenges in terms of the societal challenges, the gender aspect, the planetary aspect, the earth as a whole a lot of issues we are facing as a human being and in order to achieve or address these challenges we need a sustainability education. We need to have certain transformative descriptive technologies and that descriptive technology is the digital part because in a cost-effective manner one can reach to the public. Though there is a digital divide, rural and urban divide but however there is a divide but this digital education can provide a solution and need to capitalize on that solution. It's not only digital education can help but it has to be blended with the traditional aspect and sustainability. When we talk about sustainability, existence of human beings is questioned because of many challenges and one important challenge is climate change. It is going to have a cross-cutting effects, everything will be influenced by climate change so in a way what we need to consider is that by adopting as a solution, that solution must have core benefits. By going back to three or four decades, there's a concept called earth is a self-sustaining system, where we will not be bringing any kind of changes in the ecological system, also minimize the imbalances and for that education is required. If we adopt digital platform which will have multiple benefits and can bring a lot of change for humanity.

At the end, Dr. Deeksha Dave asked the questions to the panelists to which they replied satisfactorily and aroused the interest of the participants. The session was very engaging and led to exchange of ideas, and opportunities for digital solutions for sustainability. The participants attending the session were motivated to innovate the teaching learning pedagogy in order to nurture young minds in the area of sustainability.

### **Recommendations and Outcomes**

- Broadening access to digital device
- Enabling access to relevant organized content
- Creating user community for support network who can share the resources
- Expanding the training and practice opportunity to each and everyone
- Exchange of ideas, and opportunities for digital solutions for sustainability.
- Motivate the educators to innovate the teaching learning pedagogy in order to nurture young minds in the area of sustainability.





## SUSTAINABILITY WITH CIRCULARITY

### Background

In recent years, the circular economy has gained increasing prominence as a tool which presents solutions to some of the world's most pressing cross cutting sustainable development challenge. The concept of a circular economy stems from an economic idea, in which waste and pollution are kept in use by addressing their root causes using / innovating design, products, materials, and natural systems. Accelerated implementation of the 2030 agenda of the concept include the immensely promising food waste utilization and food loss minimization to achieve multiple SD Gs, including SDGs 6 on energy, 8 on economic growth, 11 on sustainable cities, 12 on sustainable consumption and production, 13 on climate change, 14 on oceans, and 15 on life on land.

The transition from a linear to a circular economy requires a joint effort by stakeholders from all sectors. Companies can contribute to the transition by developing competencies in circular design to implement product reuse, and recycling, and serving as trend-setters of innovative circular economy business models. Policy makers can support the transition by promoting the reuse of materials and higher resource productivity by rethinking incentives and providing the right set of policies and access to financing.

International Conference on Sustainability Education has been envisioned to bring forth the diverse concept of sustainability on one platform to educate and aware participants about the need of reshaping and redesigning the current development modules to sustainable models. This year's theme i.e., **“Building Connections and Partnerships for a Sustainable Future”** also echoes the concerns for sustainability across various domains.

### Objectives

The overall objective of the session is to deliberate upon the linkage between Circularity model and sustainability concerns, status and practices being followed to transit from liner to circular mode.

## Summary

The discussion of this session was focused on showcasing the various models and technologies being utilized to transit from linear modality to circularity. Key points which emerged out of this discussion were the potential barriers to circular economy in India, utilization of nanotechnology techniques to transform from linear water consumption to circular water management, importance of life cycle assessment of a product, green jobs in circularity, understanding of wastage valuation, upcycling case studies to enhance material's end of life, benefits of using low carbon cooking devices and role of biodegradable plastics to address the model of circularity. This session in broader terms showcases the importance of choosing circularity approach for a sustainable world.

## Session Setup

Hybrid Mode (3 speakers joined virtually), Presentation mode followed by open discussion. Session was Chaired by Prof. Vimal Katiyar, Dean R and D, IIT Guwahati "Plastic Circularity and Sustainability" and it was moderated by Mr. Shrawan Kumar, Program Coordinator, Mobius Foundation.

## Welcome Statement

Mr. Shrawan Kumar welcomed and introduced distinguished speakers and emphasized on the importance of developing transformative approach from existing linear model of resource utilization to Circular model. Subsequently he invited Prof. Vimal Katiyar to chair the session.

## Opening Remarks from Chair

Prof Katiyar in his opening statement underlined the importance of circular economy for sustainable world and emphasized on developing techniques to minimize the load on natural resources by enhancing the life cycle of resources. Taking the discussion forward he invited Prof. Joydeep Dutta, Materials and Nanophysics, KTH royal university, Sweden to present his work on flow through capacitive deionization and how it is contributing in transition towards circularity.



**Prof. Joydeep Dutta**, Materials and Nanophysics, KTH royal university, Sweden

In his presentation he showcased the technological advancement in form of Nano composites coatings to enhance the self-life of fruits and further preventing them from getting wasted due to their high perishable nature. He also presented his novel research known as "Flow through Capacitive deionization" wherein he discussed about the efficient and cost-effective desalination technologies which is crucial for addressing the globally increasing needs for drinking water. Wastage of water through this technology is significantly reduced to 20%, in comparison to currently used reverse osmosis process.



**Norman Christopher**, Executive Director, Office of sustainability practices, Principal at Sustainable business practices, LLC, USA

In his video message, he shared the crucial elements of circularity and its implication in Indian context. Businesses in India are reluctant to adopt circular economy because of bland policies and Unclear vision, supply chain limitations, lack of clear pricing signal, access to capital, physical limitations, thresholds in infrastructure and technological capacities etc.

He further emphasised that to advance circularity, it is important to shift cost structures to address total cost accounting and total cost of ownership, including environmental footprints and life cycle analysis. Tangible and intangible hidden costs should also be identified, such as regulatory, upfront, conventional, backend, contingent, brand image, and relationship costs.

**Ms Dhara Kabaria, Partner and principal designer, Studio Alternatives, Pune**

In her presentation, she showcased her experimental business as a case study, that focuses on upcycling, where they collect discarded materials, clean and sort them, and then use them to create value-added products. Her business model includes a shed studio made of 90 plus reclaimed materials and are connected to the village where they are located, with education programs, interaction, and a barter system. The team believes that anything can become something else, even the smallest scrap can become a jally (fence) or a grill. The team experiments with various materials, from foil wrappers to small coconut shells, and has worked on a variety of projects, including furniture and large-scale products. She emphasizes the importance of reducing consumption and material use, promoting reuse as a good activity, and repairing and refurbishing items.

**Mr. Harry Li , Founder at Asia Circular Economy Association, Hong Kong**

Circular economy is a model that aims to reduce waste and pollution by designing out waste and keeping products and materials in use for as long as possible, while also regenerating natural systems. He stressed on the triple bottom line approach, which considers not just economic factors, but also social and environmental impacts. The triple bottom line involves measuring an organization's impact based on its economic, social, and environmental performance. By adopting circular economy practices, businesses can reduce wastage and save costs, while also improving their environmental and social impact. This can lead to a more sustainable and prosperous future

**Dr. Pranab J Patar, CEO, Global Foundation New Delhi**

He shared his area of work linked with circularity that how the Global Foundation is putting circularity in action through its work on climate action, water resources conservation, and food and nutrition. He brought forward the case study of using low carbon energy devices and training local community members to manufacture them using locally available resource materials. The use of agriculture waste as a base for growing mushrooms is an excellent example of waste management and resource utilization.

**Prof. Vimal Katiyar, Dean R and D, IIT Guwahati**

He highlighted upon the sustainable solutions that consider the carbon footprint, health impact, and end-of-life options. The adoption of renewable fuel stock, chemical and mechanical recycling, and other sustainable solutions can help us reduce the negative impact of plastics on our environment and health. He also discussed one pilot project of utilizing bamboo as a feedstock for synthetic plastic production as an example of circularity and sustainability. The use of bamboo as a feedstock reduces the need for fossil fuels, which are a non-renewable resource and contribute significantly to climate change. The plastic made from this are utilized at several levels of its life cycle. Post packaging usage, it gets utilized in adhesive applications then after this plastic is used in fertilizer coating, which helps enhance carbon nitrogen uptake. This approach not only reduces the plastic waste but also improves soil health.

He also presented the various activities of IIT Guwahati in areas of biopolymers and sustainability.

### **Concluding Remarks by Chair**

Life cycle assessment of product is the key to design a circularity model. Minimizing the carbon footprint through well designed models based on renewable energy will definitely address the issue of sustainability through the routes of circularity.

### **Recommendations**

- Government devise a comprehensive policy to connect various sectors and their waste with their ingredients as a resource. Extended Producer Responsibility is a crucial component of the Circularity model, and it is imperative to establish a framework that facilitates this connection
- There should be a greater emphasis on Research and Development, specifically focusing on green technologies and waste-to-wealth initiatives. By prioritizing R and D in these areas, we can foster innovation and advance the adoption of sustainable practices
- Businesses should incorporate circularity as a key component while strategizing and setting up their operations. By embracing circularity, businesses can shift towards sustainable practices and contribute to the transition to a circular economy







Thematic  
Session

17

## IMPORTANCE OF EDUCATION FOR ACHIEVING INDIA'S CARBON NEUTRAL 2070 TARGET

### Background

COVID-19 pandemic and other anthropogenic activities have postured significant ramifications for our planet. India is going through an unusual alteration in terms of rising population and increasing threats of climate change.

To address these issues, India, in the recently concluded COP26, has called for enhanced climate commitments - the "Panchamrit" to effectively and efficiently achieve net-zero carbon emissions by 2070. In this regard, our country is calling for increased emphasis on the adoption of carbon-neutral strategies, increased synergy between the public and private sector, and increased awareness.

Green Rating for Integrated Habitat Assessment (GRIHA) Council, is an autonomous, not for profit society jointly set up by The Energy and Resources Institute (TERI) and Ministry of New and Renewable Energy (MNRE), Government of India to promote and administer the development of sustainable buildings and habitats in India through GRIHA. GRIHA is the indigenous rating system developed by TERI which was adopted as the 'National Rating System' of India by MNRE. GRIHA is a tool to evaluate reductions in emission intensity through habitats and has been announced as a part of mitigation strategy for combating climate change in India's 'Nationally Determined Contributions' submitted to UNFCCC by the Ministry of Environment, Forests and Climate Change.

### Objectives

- To educate the younger generation of our country regarding the milestones set by India on the path to achieving net zero economy and the ways in which they can be achieved.
- To share expert knowledge by eminent speakers regarding the role of education and awareness in sustainable development.

### Moderator

Gaurav Shorey, Founder Member - Swaraj (NGO) and Director - PSI energy Pvt. Ltd.

## Speakers

Dr Rosetta Williams, CEO, Dalmia Vidya Mandir

Ms. Heetha Lakhani, Founder and Director, ClimAct Foundation

Ms. Priyanka Kochhar, Associate Professor, University School of Architectural Planning

Dr. Livleen kahlon, Senior Fellow, Environment Education awareness, TERI

Dr. Bandana Jha, Senior Professor, School of Planning and Architecture (SPA), New Delhi

## Summary of the Presentations and Discussions

**Ms. Archana Kushwaha**, Project Officer, GRIHA Council extended a warm welcome to the panellists and briefly introduced them. She invited **Mr. Gaurav Shorey** to moderate and take the discussion further in panel discussion mode. Mr. Shorey set the tone of the session by encouraging the speakers to share their experience, challenges and thoughts about fulfilling the aim of the conference.



**Dr Rosetta Williams** shared her thoughts by saying that students are developing awareness as they are now involved in various projects and activities. She talked about some of her projects such as bamboo skill centre, cow dung cooling system, etc.

**“This is a wonderful initiative, I would like to congratulate ICSE that we all come together and trying to create more awareness. I am sure we will move together all the zero emissions.”**

In further discussion, Mr. Gaurav Shorey posed the question to Dr. Bandana Jha. **“What is the thrust that is happening right now to create this environment of partnership for achieving the future carbon neutrality?”**

**Dr. Bandana Jha** discussed all of her ideas and the ways by which they could make an impact. She highlighted that they are sensitizing their students towards green building and sustainability. They have also taught specialized software to them. Any building the students design now, they go for green materials as well as energy-efficient practices through active and passive means. She also emphasized on training the existing architects and engineers with new ones by mentioning their online courses for professionals.

**Ms. Priyanka Kochhar** shared her experience and challenges faced during designing and in-person training programs for educational organization across the world. She also talked about Solar decathlon in India and industry partnership.

**“Partnership is the new leadership and everybody must exchange learnings, that is how I believe we can take these forward.”**

**Dr. Livleen Kahlon** gave her views on Indian policies and frameworks. She said that there is no marking for what happens at state and board level because all these policies are at central level. She emphasized on the need of knowledge for skilling as complementary to the approach of knowledge for learning. She also talked about top and bottom end of pyramid, nomenclature difference in the field of environmental education from environment education framework, education for sustainable development to GCED and further, proposed that education should shift from metros and established cities to the other tiers of the country.

**“If we do not educate, train and skill-up our children then, we would hardly have people who will be able to work in the new professions that arise in the next 20 years.”**

**Mr. Gaurav Shorey** stressed the need of instilling pride in the community's residents for their own custom, culture, language, food, dress, music, and architecture. He discussed his H2Our project while emphasizing that grandparents are the best skilled teachers. He further mentioned that we should teach children how to listen and formally promote listening skills training for the them in the same way that we offer public speaking and confidence-building courses. **Dr. Bandana Jha** added that we have to develop skills in the discipline that will enable us to achieve carbon zero. It is a skill which could be a source of income.

**Ms. Heetha Lakhani** shared her thoughts and experience about her visit to COP 21 in Paris. She further discussed how to bridge the gap between what is happening internationally versus what we can do to be part of a solution. She mentioned about lack in translation by giving example of putting international guide into Indian context for normal school.

**“Despite all the work that is there currently, there is definitely a lot more that needs to be done.”**

**Mr. Gaurav Shorey** highlighted that the kids of Anganwadi have wealth of knowledge and information. We don't give them opportunity to express themselves.

**Mr. Gurpreet** shared his background as an architect and said that there is some marginal money available in the construction or building business to spend on environmental concerns. But there is a lack in will to implement because it is seen as waste of expenditure, more time consuming and tangent to the main purpose of construction. Therefore, the mindset needs to be changed. He further talked about Cross Laminated Timber (CLT) workshop, Harvard School's student work done on CLT and arming students with design knowledge.

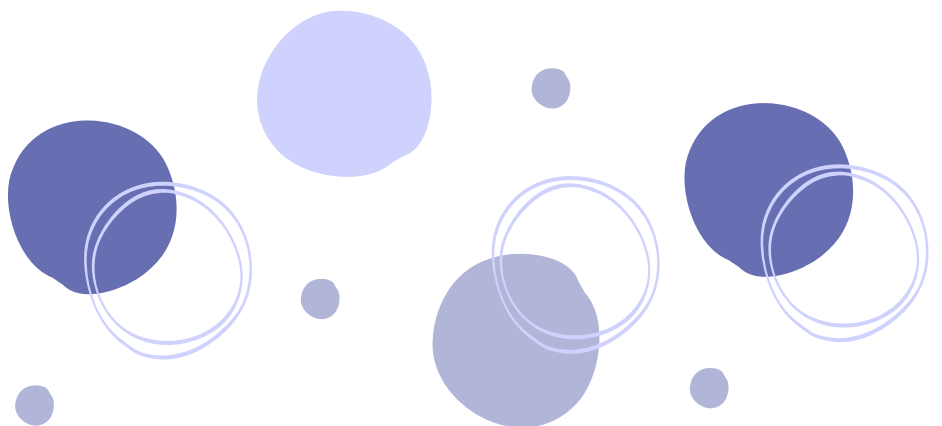
**Dr. Livleen Kahlon** said that there is no thinking space left in the mind of a child till the child is left idle and allowed to think. If he or she will come out of these rote learning mechanisms, then, these technologies and ideas will start flourishing. She further said that the gap is at the formal

education stages. We should create space for children at the school level and provide them with notebooks instead of textbooks so that they can write thoughts, likes and dislikes, and goals.

**Dr. Bandana Jha** added that if we start measuring economic advantages of being sustainable, then, everybody will start looking at the options of making money out of rag, mud architecture and plastic. She said we cannot ignore the fact that we need money to survive. So, why don't we adopt such professions and kind of manufacturing practices that allow us to be sustainable at the same time.

### Recommendations and Outcomes

- Create awareness about importance of achieving net zero targets.
- Stringent policies after taking feedback from organizations.
- Participate in the dialogue, webinars, talks and events.
- Include sustainability and carbon neutrality as core elements in Educational Institutions.
- Include more courses in e-learning platforms.





Sep  
10

## CONCLUDING AND VALEDICTORY CEREMONY

The two-day conference ended with the concluding and valedictory session. Ms Neha Raghav, Associate Director-Environment Education, WWF-India, presented the summary of all the sessions. She also read out the recommendations for adoption, prepared with contribution of all the partners of the conference. Welcoming the inputs to document, she shared the recommendations which tries to bring the agenda for action and outcome-oriented sustainability education at the forefront. This was followed by concluding remarks by the panelists Mr. Pradip Burman, Mr Kartikeya Sarabhai, Mr Patrick Van Veen, and Mr. Prithvi Yadav.

### Concluding Statements

#### **Mr. Pradip Burman, Chairman, Mobius Foundation:**

Mobius foundation will consider everything that is required and everything that we can do to sustain our planet and to make it a more livable for future generations to live after us.



**Shri Kartikeya Sarabhai, Founder and Director, CEE India:**

During and post critical times of covid, the world has seen major change in businesses and within education system that may stick with us for now and even forever. With the recognition of urgency of climate change in south and in north, the opportunities have increased and the conference discussed many of the ideas in that direction. We are not gathered here only to discuss but we would like to see them going into policy, into action, into examples and into models so that we could look forward to continuous networking with all the stakeholders.

**Mr Patrick Van Veen, Senior Advisor at JGI Global:**

It is our own biases that are sometimes the biggest problem in making the change and if we are biased, nothing is going to change. **“I have heard a lot of stories of hope and I think hope is crucial to make a change. When we bring these three things together, mindset, hope and passion, we are going to make a change”.**

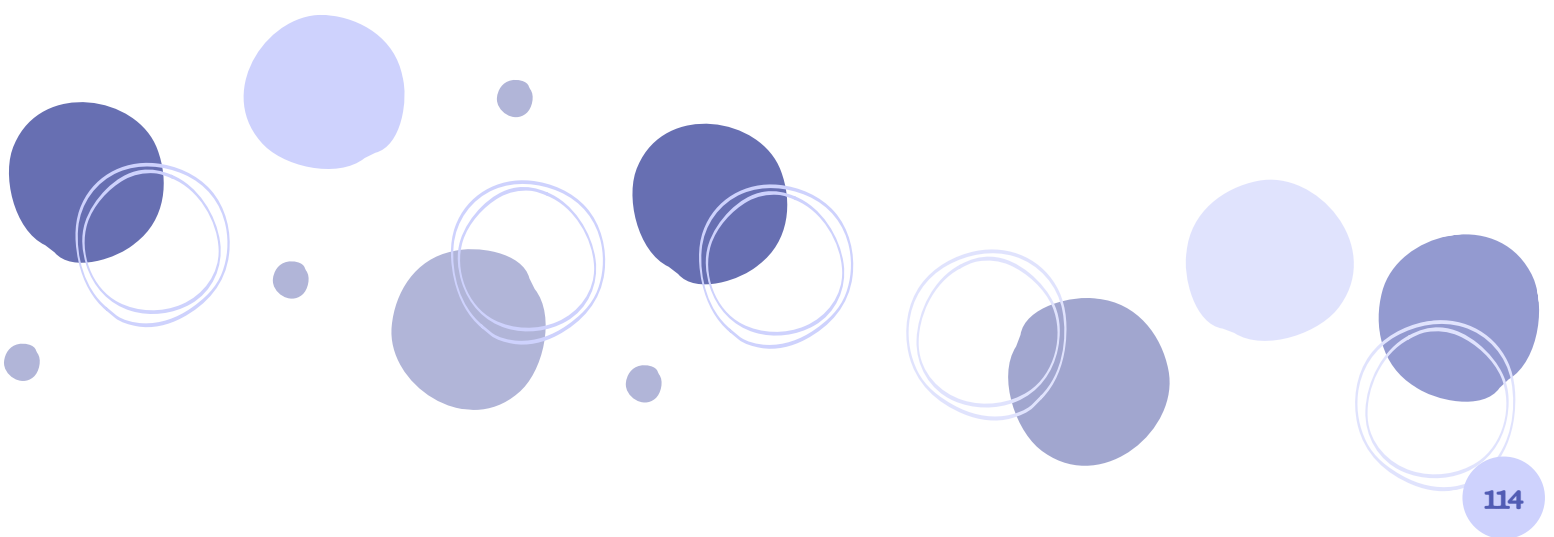
**Dr Prithvi Yadav, Vice-Chancellor, Symbiosis University, Indore:**

There is need to have focused sustainability education programmes in universities and institutions which have environmental courses. The whole campus should be developed into a sustainability hub to showcase ecofriendly practices to be practiced by all.

The Ceremony ended with presenting the mementos to the dignitaries and speakers. The paper and poster presentation results were announced and winners were awarded with the certificates.

**Vote of Thanks**

Dr Ram Boojh proposed the vote of thanks. He thanked everyone for contributing to the successful culmination of the two days event preceded by a pre-conference youth conclave. He hoped that the conference has been able to provide an opportunity to all the participants to build alliances, connections and partnerships to advance the sustainability education agenda as the key to build a better planet. He expressed his deep appreciation to all the distinguished delegates, dignitaries and partner organizations for the success of conference. He expressed his gratitude to Mr Pradip Burman for his great vision and leadership, and to the entire Mobius Team for their dedicated support for the success of the conference. He specifically expressed his sincere thanks to Mr Kartikeya Sarabhai for his constant support and guidance as Chair of the Technical Advisory Committee of the Conference to lead the whole process from the beginning till the final conclusion. He called upon all the participants to join the 5th ICSE in September 2023 in New Delhi with new ideas and thoughts.

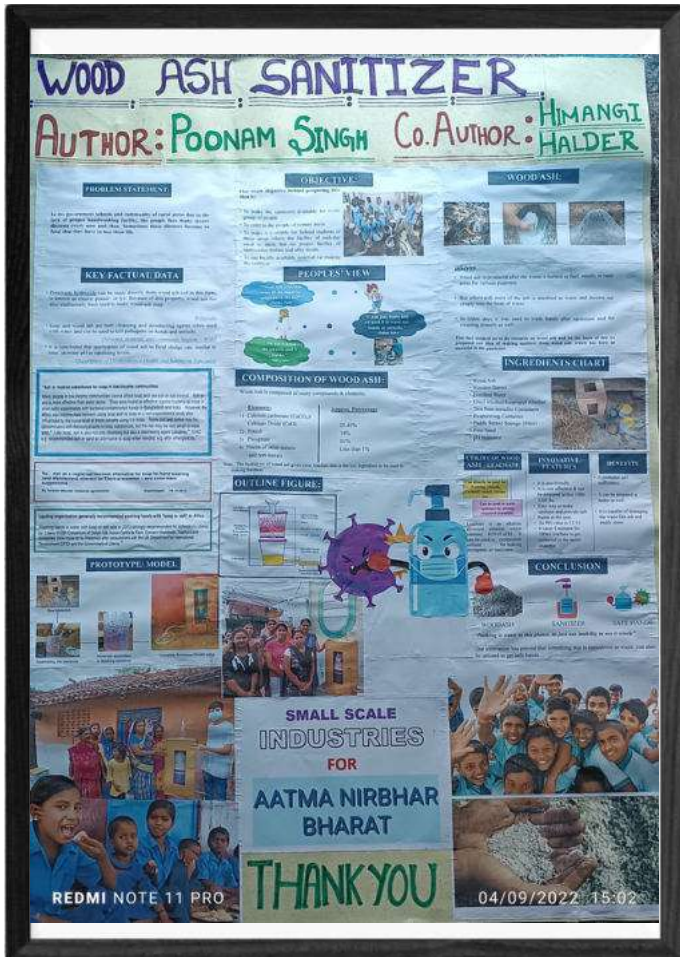


Sep  
11

**POST CONFERENCE :  
NATURE TRAIL AT SUNDER NURSERY**

A nature trail was organized at Sunder Nursery, New Delhi on 11th September 2022 in association with WWF-India. The trail was led by WWF-India's naturalist Mr. Nikhil John. The trail was joined by ICSE guests and attendees. Everybody was mesmerized by the beauty of Sunder Nursery, a silent place frequently visited by birds and other biodiversity, amidst the urban pandemonium.





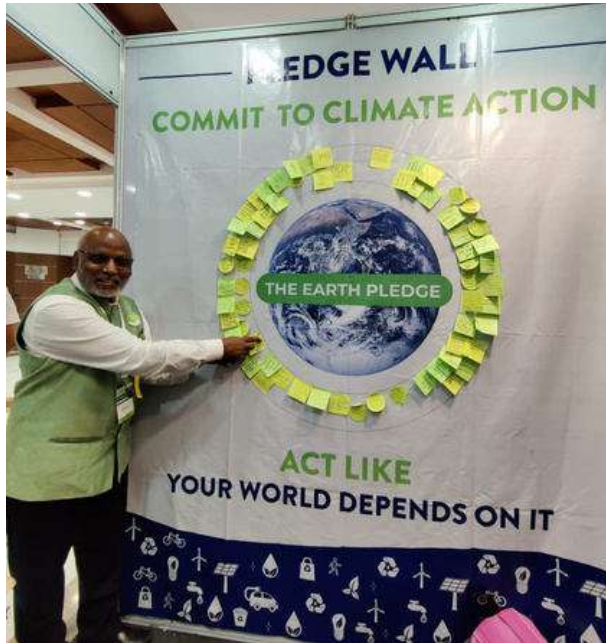
Wood Ash Sanitizer by Poonam Singh and Himangi Halder



Conservation of Natural Resources Through Sustainable Education in Tiger Territory, India by Dr Pradnya Giradkar, Wildlife Conservation and Rural Development, Maharashtra







# ICSE 2022

## CULTURAL EVENING



*Nukkad natak* by Manav Rachna International Institute of Research and Studies (above), (below) group dance and solo song by the National Association for the Blind, dance performance by DAV Pushpanjali.





### 1. Usage of Eco-friendly, recyclable and biodegradable products.



### 2. Strict NO to Single-use plastics.



### 3. Least paper use is our priority.

### 4. Reducing Carbon emissions as far as possible.

Mobius Foundation in partnership with Climate Reality Project and TERRE Policy Centre will plant trees at designated areas in order to offset the carbon emissions of the conference, taking the sustainability efforts forward.

### Collaterals

1. Eco-friendly bags and badges
2. Conference kit with pen, notepad, pen drive etc, are biodegradable, recyclable, and eco-friendly.



### Resource Usage

1. No Wastage of paper, food, water, etc. at all possible levels.
2. Shuttle service between hotels and conference venue.
3. Reusable cutlery



### Minimizing Carbon Emissions

1. Usage of **local products** as far as possible
2. **Local suppliers** for catering to reduce food miles.
3. **Tree Plantation**
4. Maximum printable content provided in a **pen drive**.
5. The **hybrid mode** of the conference will be beneficial in cutting down on carbon emissions.



Make **A** Difference

*"Every individual matters. Every individual has a role to play. Every individual makes a difference."*  
~Jane Goodall



# ICSE SPECIAL EDITION

## 4th International Conference on Sustainability Education (ICSE 2022)

Partnerships hold the potential to build networks, shared understanding and generate a focussed effort towards creating a sustainable world. With this vision, **ICSE 2022** was organized on **September 9 and 10, 2022** through **hybrid mode** at SCOPE Convention Centre, New Delhi, India in partnership with some of the key environmental organizations on the theme **Building Connections and Partnerships for a Sustainable Future**.



The conference provided platform for building alliances, both for interpersonal relationship among learners and educators as well as for sharing learnings and experiences on Education for Sustainable Development (ESD). It brought together more than 400 delegates belonging to **multi-disciplinary and diverse group of stakeholders** in person as well as via zoom. The entire conference and technical session broadcasts received **more than 40,000 views on social media platforms**.

([https://www.youtube.com/results?search\\_query=mobius+foundation](https://www.youtube.com/results?search_query=mobius+foundation))

### Pre-Conference YOUTH CONCLAVE

8th September 2022

**Youth Conclave** was organized virtually as a curtain raiser to ICSE 2022 and was attended by around 600 participants representing youth from all over the globe. The Conclave provided an opportunity to the young leaders to share their works on sustainability issues and raise their voices for urgent climate action.

**Ms Michelle Dilhara**, Environmental Activist, Author, Film and TV star, Sri Lanka was the **Youth Ambassador** at ICSE 2022. Appreciating the organization of such a conference, she expressed that rather than changing the minds of the elders, it's better to change the mind of the youth because they are the future leaders of the globe.



### Main Event TWO DAYS CONFERENCE

9th & 10th SEPTEMBER 2022

The two days conference witnessed **5 plenary sessions** including inauguration & valedictory ceremonies and **17 parallel thematic sessions** based on the themes related to various facets of sustainability education such as school education, higher education, conservation education, eco-restoration, green jobs, ocean literacy, ESG, circular economy etc.

### DAY 1: 9th September 2022

#### Inauguration

Views: 2.7K

Welcoming the delegates, **Mr Pradip Burman**, Chairperson, Mobius Foundation shared the vision behind genesis and journey of ICSE and added that Mobius foundation works to inculcate sustainable living as part of our daily lives. Speaking as the chief guest, **Mr Rajendra Singh**, the Waterman of India, emphasized that if we want to justify the narrative of sustainability education and want to look for common future, then, we need to transform this education system (*Shiksha*) to be based on traditional wisdom and values (*Vidya*). Guest of honour, **Mr Benno Boer**, Representative, UNESCO, New Delhi highlighted the need to revert back to living in harmony with nature. **Mr Kartikeya V Sarabhai**, Founder & Director, CEE, shared his views on various aspects of sustainability ranging from education, population, consumption, economic growth, natural resource management to changing lifestyles, stressing on the need to act now owing to the time gap required to see the positive impact of actions. **Mr Richard McDonald**, Founder & Executive Chairperson, Futures Group, Switzerland, in his special address shared that school culture, mindsets, intercultural cooperation, intergenerational conversations and setting examples are the five principles for transformation change towards net zero development for meaningful understanding and implementation of behaviour change towards good.



## Video messages



“Once the young people understand the problems and are empowered to take actions, they can truly make a difference.”

... **Dr Jane Goodall**

*Founder, Jane Goodall Institute, Roots & Shoots Institute, UN Messenger of Peace*



“Sustainability is a complex issue and can be solved by creating trustful perspective, working relationships and growing collaborations and then developing new strategic alliances and partnerships.”

... **Dr Norman Christopher**

*Executive Director of the Office of Sustainability Practices, LLC*

## Efforts Towards Sustainability

Various Sustainability Practices were followed during the conference.

1. Usage of **Eco-friendly, recyclable and biodegradable products.**
2. **Strict NO to Single-use plastics.**
3. **Least paper use**
4. **Reducing Carbon footprint.**

Mobius Foundation has planted saplings in partnership with **The Climate Project Foundation, India and South Asia** and **TERRE Policy Centre** to offset carbon footprint of the conference.

## 1st Plenary Session

Views: 2.6K

### India@75: Lessons for a Sustainable World

The session was organized to focus on journey of 75 years of environmental education in India and way forward for the next 25 years. Attended by experts and participants including teachers, EE/ESD experts, educators, practitioners and other stakeholders, this session set the tone for the two days conference and deliberations. The experts deliberated upon the India's innate affinity towards environmental concerns and how this is further getting strengthened with developing technologies in the field of education and awareness. Further, approaches towards education for sustainability were also discussed in the context of pedagogical approach through development of national curriculum framework.



Below are the key messages shared by the eminent speakers in the session:



“There is an urgent need to integrate and include climate change, and sustainability education in our core curriculum across all levels, and in all disciplines of learning.”

... **Ms. Neerja Sekhar**

*Additional Secretary, Ministry of Information and Broadcasting, Govt of India*



“Looking at the Environmental Education's origin in India, we have to understand that it is deeply rooted in our culture.”

... **Mr Kartikeya Sarabhai**

*Director, Centre for Environment Education (CEE)*



“The children must learn the environmental education not only as a subject, but as a practice.”

... **Dr Vibha Dhawan**

*Director General, The Energy and Resources Institute (TERI)*



“Whether we look at nature from an environmental, cultural or religious point of view, it is our responsibility and clearly, it is in our interest to respect the nature.”

... **Ms Huma Masood**

*Senior Gender Specialist, UNESCO, New Delhi*



“Teachers may bring innovative pedagogy with community involvement to bring the attitudinal changes for environmental education.”

... **Prof. Sunita Farkya**

*Head, Department of Education in Science and Mathematics, NCERT*



“With our so-called development, we are still trying to produce more, consume more, grow over GDP more, but when we look at it from fundamentals of law of nature on sustainability, we can't do this.”

... **Prof. Chetan Solanki**

*Member, NCF, EE*



“Males are at the margins of ESD/EE and it is important to bridge this gap, acknowledge males and bring them in environmental education and climate literacy.”

... **Dr Pramod Sharma**

*Sr Director of Education, FEE, Denmark*

## 2nd Plenary Session

### Agenda Sustainability: The Road to population stabilization- How to reach the unreached?

This special session deliberated upon the linkage between population stabilization and sustainability concerns, status and trends of population growth and the role of education, empowerment and awareness in population stabilization and sustainability of the planet.



Chairing the session, **Mr Pradip Burman** emphasized on the importance of education to stabilize the population and save the planet Earth.

Below are the bites of experiential knowledge shared by experts in the session.



“Overcoming the barriers of misinformation to people regarding contraceptive services is critically important to change behaviour.”

... **Mr William Ryerson**  
Founder & President, Population Media Centre



“We have to think about overpopulation and overconsumption together. If we're thinking about population and reproductive health, we have to think about it from a justice and rights perspective and not as a solution to saving the environment.”

... **Mr Anand Sinha**  
Country Advisor, David and Lucile Packard Foundation



“An alternative to leave no one behind is to push no one behind because every time we disregard most vulnerable, we are widening the gap, we are actually increasing inequality.”

... **Ms Andrea Wojnar**  
Resident Representative, UNFPA



“If there is any subject which has more myths and misconceptions, it is the population issues and the consumption v/s population debate.”

... **Dr Poonam Muttreja**  
Executive Director, Population Foundation of India



“Using contraceptives and family planning is not a women's issue. It is as much a man's issue and a societal issue where society has to work on changing norms.”

... **Ms Nandita Bajaj**  
Executive Director, Population Balance, USA

## Parallel Session 1

Views: 3K

### Compulsory Environmental Education in India: Lessons Learnt and Way Forward

The experiences of implementation of compulsory EE including its successes and failures, and possible ways forward were reflected in this session.



## Parallel Session 2

Views: 2.5K

### Green Jobs for Youth

The prospects and employability for youth in the Green Jobs sector were highlighted providing knowledge of sectors and actors to support for the creation of green jobs in India. Efforts taken by various stakeholders in this sector were showcased, motivating youth to aspire and work towards building a sustainable and resilient world.



### Parallel Session 3

Views: 2.8K

#### Oceans are Us – Ocean Literacy Program

People were educated about oceans and made them aware of the impact caused by anthropogenic activities on the oceans.



### Parallel Session 4

Views: 3.1K

#### Technology for Conservation Education

Examples of technology-driven conservation education programmes were explored recognizing the need for conservation education for students and educators in the context of current environmental status and the national agenda of promoting technology integration & digital education.



### Parallel Session 5

Views: 3.1K

#### Eco-Restoration - for People, Nature & Climate

This panel discussion explained the crucial role played by the diverse ecosystems and charted the losses that result from our poor stewardship of the planet. The session sought to achieve it through effective & innovative landscapes and ecosystem management that prevents & halts degradation, and restores degraded ecosystems.



## DAY 2: 10<sup>th</sup> September 2022

### 3rd Plenary Session

Views: 2.7K

#### Mission Prakriti Launch

Mission Prakriti is a student-led movement launched by WWF-India during ICSE in which students will be prepared towards building green campuses in schools and transforming communities into green communities.



#### Youth for Earth Award Ceremony

The **Youth for Earth** is a campaign by Mobius Foundation in partnership with **The Climate Project Foundation, India & South Asia**, for youth to showcase their environment-friendly actions and work on the ground that results in a change for a more sustainable planet. The projects were based on themes of SDGs like climate action, waste management, air pollution, energy efficiency and conservation, population and sustainability and nature and biodiversity.

This year, around 150 teams across India & South Asia registered for the campaign. Best 5 change makers from junior category and 2 from senior category were felicitated and awarded cash prizes.



### Parallel Session 6

Views: 11K

#### Promoting Innovations to Achieve Sustainable Development

Role of capacity building to promote innovations for sustainability, importance of grassroots innovations in solving local developmental issues, sustainability solutions through emerging Science & Technology tools and ESD experience sharing from other countries were discussed.





## Parallel Session 7

Views: 2.5K

### Celebrations of Net Zero Carbon & Impact Journey: GCP Schools ki Zubaani

Showcase the impact journey of the Green Campus Program schools that have transformed their conventional campuses into sustainable ones.



## Parallel Session 8

### ChimpanZoo - Chimpanzee Research, Education and Outreach Programme

Knowledge and information about ChimpanZoo International Research Program was shared and ideas on integrated and collaborative management, educational outreach, and data collection methods of chimpanzees in zoos were discussed.



## Parallel Session 9

Views: 10K

### Demystifying the Myths and Realities of ESG

In this special session, various experts from ESG domain deliberated upon the modalities of ESG and its role in achieving sustainability goals, technical aspects of ESG and its usage in reaching the Sustainable Development Goals.



## Parallel Session 10

Views: 11K

### Abu Dhabi's Environmental Education Programmes- Oral Presentations

Abu Dhabi's environmental world class winning programmes were highlighted and introduced the audience was introduced to sustainable schools, campus, youth programmes, and community-based programmes.



## Parallel Session 11

Views: 2.5K

### Oral Presentations of Contributed Papers

Invited papers were presented orally wherein 15 oral presentations were made out of which best three were selected.



## Parallel Session 12

Views: 2.5K

### Sustainability Educators' Conclave

The importance and role, educators on making education a transformative agent towards achieving Sustainable development were highlighted.



## Parallel Session 13

Views: 6.3K

### Handprint Methodology-Experience Sharing

Experiences linked to application of Handprint methodology in school education from pre-primary to higher secondary level were shared.



## Parallel Session 14

Views: 2.5K

### Higher Education

UNEP showcased and highlighted the UN's higher education initiatives, like Race to Zero, Nature Positive universities etc. with a special focus on the ones that are already, or will soon be, active in India.



## Parallel Session 15

Views: 2.7K

### Digital Solutions to Sustainability Education

The panellists discussed about the importance of innovative teaching learning pedagogy in sustainability endeavours of educational institutions and deliberated on the digital solutions to the varied sustainability issues.



## Parallel Session 16

Views: 2.7K

### Sustainability with Circularity

The special session deliberated upon the linkage between circularity model and sustainability concerns, status and practices being followed to transit from linear to circular mode.



## Parallel Session 17

Views: 2.5K

### Importance of Education for achieving India's carbon Neutral 2070 target

The audience was made aware regarding the milestones set by India on the path to achieving net zero economy and the ways in which they can be achieved.



## CONCLUDING AND VALEDICTORY CEREMONIES

Draft recommendations based on outcomes and solutions of various sessions were presented in the concluding session. The recommendations fall in five major thematic areas including **Solutions through Education and Technology, Green Jobs and Circular Economy, Biodiversity and Ecological Restoration, Capacity Building, Climate Literacy and Net Zero Targets**. Dr Ram Boojh proposed the vote of thanks and urged the delegates to take back the learnings and exchanges of the two days conference and strengthen alliances and partnerships to support the growth of sustainability education.



## Post - Conference NATURE TRAIL TO SUNDER NURSERY

11<sup>th</sup> September 2022

A nature trail was organized at Sunder Nursery, New Delhi on 11<sup>th</sup> September 2022 in association with WWF-India. The trail was led by WWF- India's naturalist Mr. Nikhil John. The trail was joined by ICSE guests and attendees. Everybody was mesmerized by the beauty of Sunder Nursery, a silent place frequently visited by birds and other fauna, amidst the urban pandemonium.



## POSTER PRESENTATIONS

Invited posters were presented based on the themes related to sustainability education, and environment like Sustainability integration: Linking Formal, Informal and Non-formal education, climate education and literacy etc.



## STALLS AND EXHIBITIONS



## CULTURAL EVENING



## ICSE SOCIAL BUZZ

Various posts related to ICSE were posted on social media wherein good viewership and response was received. Here is a chart of overall buzz created by ICSE social media.

	f	@	🐦	in	▶
Reach	4,27,890	6,53,873	-	-	-
Impression	4,44,700	5,39,800	19,377	5,255	-
Engagement	11,591	12,858	784	751	-
Video views	104.9k	3,164	534	-	39,512

### Retweets

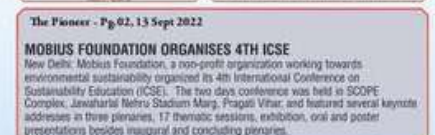


### Stories



## NEWSPAPER COVERAGE

Indian Express, The Hans India, Media Brief, UNI Varta, News 24 Online, Latestly, Dainik Savera Times, Lok Bharti, Rajawat Times, Mayur Samwad, Vimarsh Bharat, News Locker, Perfect News, The Global Voice News Channel, The Global Voice News Channel, PCS News.





## INTERNATIONAL CONFERENCE ON SUSTAINABILITY EDUCATION

**Theme: Building Connections and Partnerships for Sustainable Future**

**Venue: Scope Convention Centre, New Delhi, 110003**



Dr. Jane Goodall, Founder of JGI and Roots & Shoots, UN Messenger of Peace, addressing the panelists during ICSE 2022

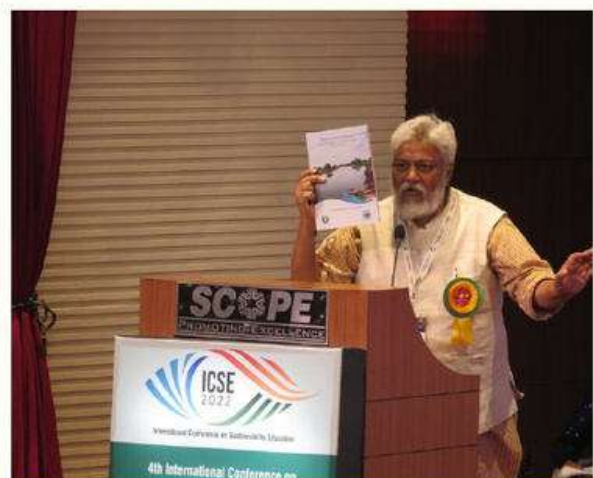
The 4th edition of International Conference on Sustainability Education (ICSE) organized by Mobius Foundation along with its eminent partners was a successful platform for the alliance of all the stakeholders with an ultimate vision for the betterment of environment.

Recognized personalities and notable speakers from around the world came together and put forward issues related to sustainability education. Mr Richard McDonald, Founder and Executive Chairperson of Futures Group, Switzerland during his address at the inaugural ceremony shared the 4 pillars for meaningful discourse on environmental education:

- 1) School
- 2) Culture
- 3) Mindset
- 4) Intergenerational Conversations



Ms. Neerja Sekhar, Additional Secretary, Ministry of Information and Broadcasting, Govt. of India during the plenary session "India@75: Lessons for a Sustainable World"



Shri Rajendra Singh  
Waterman of India launching his new book.

# ICSE 2022



## Quotes

"Any single person or organization can not bring the change by themselves. Collective efforts are need of the hour towards the journey of sustainability."

-Mr. Pradip Burman, Chairman, Mobius Foundation

"Every single one of us matters, and every single one of us can make ethical choices to bring about a significant change. Together we can save the world because we must."

-Dr. Jane Goodall, Founder of Jane Goodall Institute, UN Messenger of Peace

"More we take care of our body more we can live. Similarly more we care about our planet more it going to sustain life."

-Ms. Neerja Sekhar, Add. Secretary, Ministry of Information & Broadcasting, Govt. of India

"When a student learns, the parents learn as well. When you touch a student, you touch a hundred lives."

-Mr. Shim Mathew, Director, VIBGYOR Group of Schools India

## Notable Speakers

1. Shri. Kartikeya V Sarabhai, CEE, India
2. Ms. Huma Masood, UNESCO, India
3. Ms. Nandita Bajaj, Population Balance, USA
4. Mr. William Ryerson, Population Media Centre, USA
5. Ms. Andrea Wojnar, UNFPA, India
6. Mr. Anand Sinha, David & Lucile Packard Foundation, India
7. Dr. Vibha Dhawan, TERI, India
8. Dr. Pramod Sharma, FEE, Denmark
9. Ms. Poonam Muttreja, PFI, India
10. Prof. Chetan Solanki, NCF, EE, India

## Highlights

- Session on "Compulsory Environmental Education (EE) in India: Lessons Learnt and Way forward" by FEE, reflect and discussed the impacts, needs, failures and successes in approach to incorporate EE into existing curriculum.
- Green Jobs for Youth conducted by UNEP was an in-depth of the narrow lens with which green jobs are viewed in India. Session addressed the different actors working towards the creation of green jobs within Government/Youth/Private Sector/Academic etc.
- The Session 'Oceans are US - Ocean Literacy Programme' was conducted by the Jane Goodall Institute India delighted the minds of all the attendees by making them realize their root connection to the oceans.
- The Session on 'Technology for Conservation Education' organized by WWF-India helped participants to explore the technology-driven conservation programme in almost all the domains of research & education.
- The parallel thematic session 'Eco-restoration - For People, Nature & Climate' organized by TERRE Policy Centre was one of the enlightening sessions that showcased the work done in partnership with communities to seek effective and innovative ecosystem restoration.





# INTERNATIONAL CONFERENCE ON SUSTAINABILITY EDUCATION

**Theme: Building Connections and Partnerships for Sustainable Future**

**Venue: Scope Convention Centre, New Delhi, 110003**

## Day 2 begins with the launch of Mission Prakriti by WWF India



Launch of Mission Prakriti by Dr. Ram Boojh, Ms. Radhika Suri and Mr. Kinley Dorji on second day of ICSE 2022.

## Celebration of Net Zero Carbon & Impact Journey: GCP Schools ki Zubaani

Success stories by Sadhu vasvani School, SD Vidhya School, KIIT School and The Mann School.

The session was concluded by award ceremony and cultural programme.



Mann School sharing their school's success story.

## YOUTH FOR EARTH AWARD

Team Urvara, Pune Plastic Warriors, Terra Time, SD's Change Makers, Pramiti bagged junior category Prize while Team project Ikhtiyar and Crew for Climate bagged senior category award.



Team Urvara & other participants attending the event online and receiving award and cash prize.

## KEY EVENTS

Parallel session by Pushpa Gujral Science City, The Climate Reality Project India and South Asia, JGII, CorpStage Singapore and ESG Research Foundation, EAD, Sustainability Educator's Conclave, CEE, UNEP, IGNOU, CIT-Kokrajhar, TERI (GRIHA).

Oral presentation of contributed papers which was chaired by Dr. Suprava Patnaik and moderated by Dr. Awkash Kumar.



Parallel session by JGII at Tansen Seminar Hall addressing Chimpanzee, their chimpanzee conservation & outreach programme.

# ICSE 2022

## 4th International Conference on Sustainability Education

September 2022, Convention Centre, New Delhi, India

**After concluding and valedictory ceremonies, board presented summary of sessions and adoption of recommendations.**

The concluding statement were given by Mr. Pradip Burman, Shri Kartikeya Sarabhai, Prof Peter Fikowsky, Mr. Anil Gupta, Mr. Patrick Van Veen, Prof. Ashok Kumar, Prof. Prithvi Yadav.

The conference was concluded with vote of thank by Dr. Ram Boojh, CEO of Mobius Foundation expressing his gratitude for coming together and urged all the stakeholders to join hands and take action towards sustainability.

## Highlights

- Digital solutions to sustainability education was moderated by Dr. Deeksha Dave and the session's main objective is to deliberate on solution to the varied sustainability issues and also to explore the role of emerging technologies in education sector to transform the teaching learning process.
- The Importance of Education for achieving India's Carbon Neutral 2070 target session was conducted by GRIHA Council (TERI), moderated by Mr. Gaurav Shore.
- Abu Dhabi's Environmental Education Programme was chaired by Aisha Al Mazrouri and Amna Al Suwaidi from Environmental Agency Abu Dhabi. The agenda of the session was to introduce sustainable schools, campus and youth programmes and community based programmes.
- JGII shared their knowledge and information about ChimpanZoo International Research Programme. They presented 3 elements roots and shoot, enrichment and research studies respectively.
- Shri Kartikeya Sarabhai overviewed the handprint concept that captures the positive energy in youth which reflect in themselves to take positive action for better and sustainable future.

Team YRE with Mr. Pradip Burman, Chairman of Mobius Foundation



Handprint parallel session at Tagore Seminar Hall moderated by Ms. Archana Panicker, speakers of the session were Shri Kartikeya Sarabhai, Ms. Khushbu Shah and Ms. Archana Bhatnagar





### Insta Stories








	Posts	Videos	Stories	Re-Shares
	24	18	62	15
	47	18	40+	-
	39	18	-	10
	46	18	-	22








### Pre-Post Buzz of the Event

	Reach	Impressions	Engagement	Views
	1,00,948	1,06,518	6,516	-
	50,362	52,452	3,888	9.2k
	-	1,882	452	-
	-	14,170	418	-

## Day 1

	Reach	Impressions	Engagement	Views
	2,44,602	1,94,505	4,129	2,120
	2,13,445	2,21,810	5,841	53.5k
	-	2,002	200	-
	-	2,780	200	291
	10 videos posted			21,782

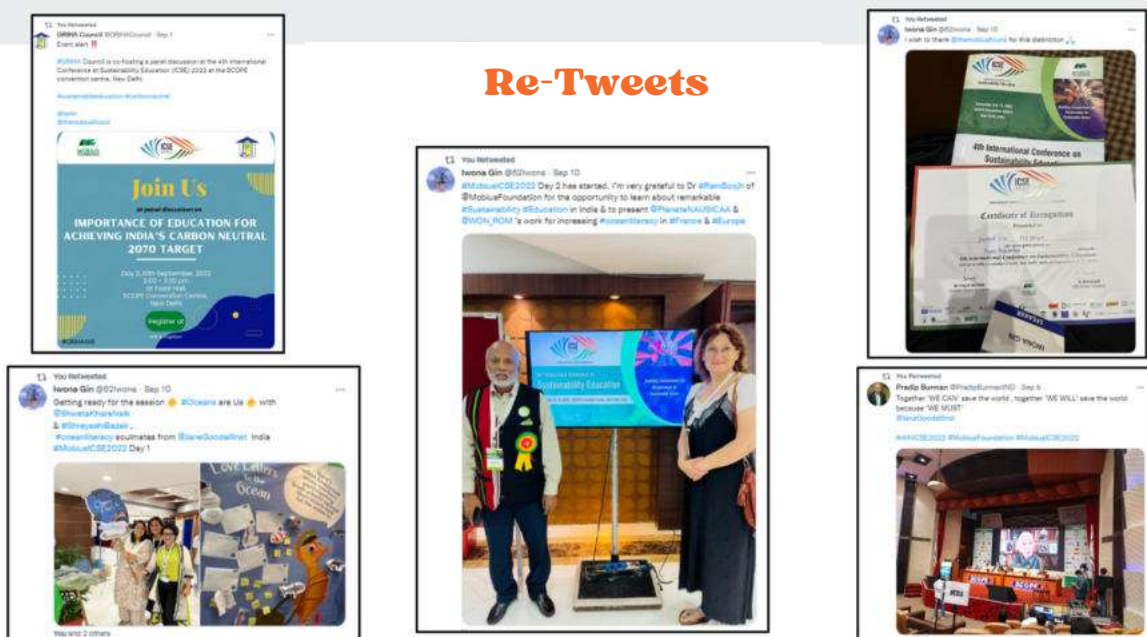
## Day 2

	Reach	Impressions	Engagement	Views
	3,08,323	2,38,800	2,213	1,044
	1,64,083	1,70,438	1,862	42.2k
	-	1,371	99	-
	-	2,427	166	244
	13 videos posted			17,730

# Total Social Impact

	Reach	Impressions	Engagement	Views
	6.5 lac	5.3 lac	12.8k	3.1k
	4.2 lac	4.4 lac	11.5k	1 lac
	-	5.2k	751	-
	-	19.3k	784	534
	23 videos posted			39.5k

## Re-Tweets



Sep  
8

### Pre-Conference (Youth Conclave) - Zoom webinar

17:00 - 17:10	Welcome and Introduction	<ul style="list-style-type: none"> <li>• Dr. Pramod Sharma, Sr. Director, FEE, Copenhagen, Denmark</li> <li>• Ms. Kristina Madsen, Coordinator of Education, FEE, Copenhagen, Denmark</li> <li>• Ms. Kavya Singh Yadav, Environmentalist, Mobius Foundation, New Delhi, India</li> </ul>
17:10 - 17:15	Mentimeter Questions	
17:15 - 17:25	Special Address	<ul style="list-style-type: none"> <li>• Ms Michelle Dilhara, ICSE Youth Ambassador, Author, Environmentalist and Philanthropist, TV and Film Star, Sri Lanka</li> </ul>
17:25 - 18:15	Panellists	<ul style="list-style-type: none"> <li>• Ms Masaki Morimoto, President, Eco-Committee, Nagoya Int. School, Japan</li> <li>• Ms Aziezah Essop, Head, Dept of Social Sciences, St. Andrew's Girls School, Johannesburg, South Africa</li> <li>• Ms Erafasyra Man, Chairwoman, Eco-campus Committee, Cambodia</li> <li>• Ms Prarthana Bhattacharya, Team Representative for Project Ikhtiyaar,</li> <li>• Youth for Earth, Enactus Miranda House, New Delhi, India</li> <li>• Ms Iwona Gin, World Ocean Network, Nausicaa, France</li> </ul>
18:15 - 18:25	Concluding Remarks	<ul style="list-style-type: none"> <li>• Dr Ram Boojh, CEO, Mobius Foundation and ICSE Convener</li> </ul>
18:25 - 18:30	Vote of Thanks	<ul style="list-style-type: none"> <li>• Ms Kristina Madsen, Coordinator of Education, FEE, Copenhagen, Denmark</li> </ul>

Sep  
9

### Day 1 - SCOPE Convention Centre, New Delhi

8:00 - 9:30	Registration	
9:30 - 11:00	Inauguration	<ul style="list-style-type: none"> <li>• Host - Ms Michelle Dilhara, ICSE Youth Ambassador, Author, Environmentalist, TV and Film Star, Sri Lanka</li> </ul>
9:30 - 9:35	Lighting of the Lamp	<ul style="list-style-type: none"> <li>• Saraswati Vandana by DAV School, Dwarka, New Delhi</li> </ul>

9:35 - 9:40	Welcome Address	<ul style="list-style-type: none"> <li>Mr Pradip Burman, Chairman, Mobius Foundation</li> </ul>
9:40 - 9:50	Special Messages	<ul style="list-style-type: none"> <li>Dr (Ms) Jane Goodall, Founder, Jane Goodall Institute, Roots and Shoots Institute, UN Messenger of Peace [Video]</li> </ul>
10:05 - 10:25	Guest of Honour	<ul style="list-style-type: none"> <li>Mr Benno Boer, Representative, UNESCO, New Delhi</li> </ul>
10:25 - 10:35	Keynote Address	<ul style="list-style-type: none"> <li>Mr Kartikeya V Sarabhai, Founder and Director, CEE, India, Chair, ICSE</li> </ul>
10:35 - 10:55	Special Address	<ul style="list-style-type: none"> <li>Dr Norman Christopher, Executive Director of the Office of Sustainability Practices, LLC, USA [Online]</li> <li>Mr Richard McDonald, Founder and Executive Chairperson, Futures Group, Switzerland</li> </ul>
10:55 - 11:00	Vote of Thanks	<ul style="list-style-type: none"> <li>Dr Ram Boojh, CEO, Mobius Foundation and ICSE Convener</li> </ul>
Refreshments Break		
11:30 - 11:45	<b>1st Plenary Session</b>  <b>India@75 : Lessons for a Sustainable World</b>	Welcome address and opening remarks by Mr. Kartikeya Sarabhai, Founder and Director, CEE, India
11:45 - 12:00		Special address by chief guest Ms Neerja Sekhar, Additional Secretary, Ministry of Information and Broadcasting, Govt. of India
12:00 - 13:00		Key Speakers <ul style="list-style-type: none"> <li>Dr Vibha Dhawan, Director General, TERI</li> <li>Dr Sunita Farkya, Professor, NCERT, New Delhi</li> <li>Ms Huma Masood, UNESCO, New Delhi, India</li> <li>Prof. Chetan Solanki, Chairman, NCF, EE [Online]</li> <li>Dr Pramod Sharma, Senior Director of Education, FEE, Denmark</li> </ul>
Lunch Break		
14:00 - 14:05	<b>2nd Plenary Session</b>  <b>Agenda Sustainability : The Road to Population Stabilisation - How To Reach the Unreached?</b>	Moderator: Dr Ram Boojh, CEO, Mobius Foundation
14:05 - 14:15		Opening remarks by Mr Pradip Burman, Chairman, Mobius Foundation
14:15 - 15:00		Key Speakers/ Panellists <ul style="list-style-type: none"> <li>Ms Andrea Wojnar, Resident Representative, UNFPA, India</li> <li>Ms Nandita Bajaj, Executive Director, Population Balance, USA [Online]</li> <li>Mr Anand Sinha, Country Advisor, David and Lucile Packard Foundation</li> <li>Mr William Ryerson, Founder &amp; President, Population Media Centre [Online]</li> <li>Ms. Poonam Muttreja, Executive Director, Population Foundation of India</li> </ul>
15:00 - 15:20		Open session for questions and comments
15:20 - 15:30		Concluding remarks by Dr Ram Boojh, CEO, Mobius Foundation and ICSE Convener
Refreshments Break		

16:00 - 17:30		Thematic Parallel Sessions		
Session 1 Mirza Ghalib	Session 2 Tagore	Session 3 Tansen	Session 4 Amir Khusro	Session 5 Bhabha
<p><b>Compulsory Environmental Education in India: Lessons Learnt and Way Forward</b></p> <p>By FEE</p> <p>Moderator: Dr Pramod Sharma, Senior Director of Education, FEE</p> <p>Ms. Swarnima Luthra, Principal ASN Senior Secondary School, Delhi</p> <p>Ms Mita Nangia Goswami, ESD Expert, SDC Mongolia [online]</p> <p>Ms Sital, Teacher, Bal Bharti School</p> <p>Ms Chong Shimray, Associate Professor, DESM, NCERT</p> <p>Prof Prithvi Yadav, V C, Symbiosis University</p>	<p><b>Green Jobs for Youth</b></p> <p>By UNEP</p> <p>Ms Gayatri Raghwa, UNEP</p> <p>Mr Sam Barratt, UNEP</p> <p>Prof. Sanjana Vij, Amity University, Gurgaon</p> <p>Ms Rao, Career Guidance Councillor</p> <p>Ms Manisha Choudhary</p> <p>Dr Suprava Patnaik, AIGGPA, Bhopal</p> <p>Ms Nivea Sundarraj, C4Y, New Delhi</p> <p>Ms Divya Dutt, UNEP</p> <p>Ms Archana Dutta, UNEP</p>	<p><b>Oceans Are Us - Ocean Literacy Programme</b></p> <p>By JGII</p> <p>Moderator: Lubaina Bandukwala,</p> <p>Rushikesh Chavan, The Habitat Trust</p> <p>Mr Shim Mathew, VIBGYOR Group of Schools India</p> <p>Ms Shweta Khare Naik, JGI, India</p> <p>Ms Iwona Gin, World Ocean Network, France</p> <p>Amalia de Abreu, I AM WATER Foundation (South Africa) [Online]</p> <p>Katherine Wallis, I AM WATER Foundation (South Africa) [Online]</p>	<p><b>Technology for Conservation Education</b></p> <p>By WWF India</p> <p>Dr Radhika Suri, WWF India</p> <p>Ms Neha Raghav, WWF India</p> <p>MCOP Delegates</p>	<p><b>Eco-Restoration - for People, Nature and Climate</b></p> <p>By TERRE Policy Centre</p> <p>Chairperson: Mr Praveen Garg, IAS (R) Advisor, Mobius Foundation</p> <p>Dr Vinitaa Apte, TERRE Policy Centre, Pune</p> <p>Mr Ninad Raut, Terracon Ecotech Pvt. Ltd., Pune</p> <p>Mr Pravin Bhagwat, 14 Trees Foundation</p> <p>Mr Amit Godse, Bee Man of India</p> <p>Ms Katharina Gehrig Global Fund for Nature, Germany [Online]</p>
17:30 - 18:30	<p>Networking Hour</p> <p>Poster Presentations (schedule in next table)</p> <p>Jury Members: Ms Radhika Bhagat, WTI   Dr Suprava Patnaik, AIGGPA, Bhopal   Ms Neha Midha, UNESCO</p>			
18:30 - 19:00	<p>Cultural Evening</p> <p>Dance Performance by DAV Pushpanjali</p> <p>Nukkad Natak by Manav Rachna International Institute of Research and Studies</p> <p>Solo Song and Group Dance by National Association for the Blind</p>			
Welcome Dinner				

### Program Schedule - Poster Presentations

No.	Topic	Poster presentation by
1	Sustainability Practices at Secondary School of Mymensingh region, Bangladesh	Md. Rishad Abdullah, Mymensingh, Bangladesh

2	Conservation of Natural Resources Through Sustainable Education in Tiger Territory, India	Dr Pradnya Giradkar, Wildlife Conservation and Rural Development, Maharashtra
3	Wood Ash Sanitizer	Poonam Singh and Himangi Halder
4	Individuals building Partnerships within their societies for Sustainable Future	Shalini Chablani, Nature Healing Foundation
5	Adapting the KAP model for IEC Purposes	Ms Neha, TERI and Mr Lovish Raheja, TERI
6	TAGOR: Technology Assistance Guidance On Roads	Mr Rahul Johari and team, GGSIPU
7	Robots- Inanimate or Living: To evaluate the receptivity of Xenobots by Indian Respondents	Mr Aarav Agrawal, DPS
8	Women Empowerment- A key to Achieve Sustainable Goal in Rural India	Ms Poonam Singh Parihar, Mobius Foundation
9	Commercial Advertising as a tool of Sustainability Education	Mr Anand Saxena and Ms Anubha Mukherji, Deen Dayal Upadhyay, Delhi University



## Day 2 - SCOPE Convention Centre, New Delhi

8:00 - 9:30	Registration	
9:30 - 11:00	<b>3rd Plenary Session</b>	<p>'Mission Prakriti' Launch by WWF India</p> <p>'Youth for Earth' Award Ceremony moderated by Ms Smruti Sweta Samantray, Climate Reality Project, India and South Asia</p> <p>Junior Category            1st Prize – Team Urvara - Greening Mother Earth            2nd Prize – Team Pune Plastic Warriors            3rd Prize - Team Terra Time            4th Prize - Team SD's Change Makers            5th Prize – Team Pramiti</p> <p>Senior Category            1st Prize – Team Project Ikhtiyaar            2nd Prize - Team Crew for Climate</p>
Refreshments Break		

11:30 - 13:00	Thematic Parallel Sessions				
Session 6 Mirza Ghalib	Session 7 Auditorium	Session 8 Tansen	Session 9 Tagore	Session 10 Bhabha	Session 11 Fazal
<p><b>Promoting Innovations to Achieve Sustainable Development</b></p> <p>By Pushpa Gujral Science City</p> <p>Moderator: Dr Neelima Jerath, PGSC</p> <p>Chairperson: Prof. Anil Gupta, Honey Bee Network, Ahmedabad</p> <p>Ms Huma Abidi, INTEL Corporation, USA [online]</p> <p>Ms Mita G., SADC, Mongolia [online]</p> <p>Ms Deepali U., NITI Aayog</p> <p>Ms Huma Abidi, INTEL Corporation, USA [online]</p> <p>Ms Sharda Pullabhatla, KN Public School, Phagwara</p>	<p><b>Celebrations of Net Zero Carbon and Impact Journey: GCP Schools ki Zubaani</b></p> <p>By CRP, India</p> <p>Mr Kamal Meattle, Trustee, CRP</p> <p>Mr Aditya Pundir, Country Manager, CRP</p> <p>GCP awardees</p>	<p><b>ChimpanZoo - Chimpanzee Research, Education and Outreach Programme</b></p> <p>By JGII</p> <p>Moderator: Dr Pranab J. Patar, Global Foundation, Delhi and Ms Shweta Khare Naik, JGI, India</p> <p>Mr Patrick Van Veen, JGI</p> <p>Cameron Kerr [Online]</p> <p>Dr Sonali Ghosh, CCF, Govt. of Assam</p> <p>Dr Abhilash Khandekar, Co-founder of The Nature Volunteers, MP</p>	<p><b>Demystifying the Myths and Realities of ESG</b></p> <p>By CorpStage, Singapore and ESG Research Foundation</p> <p>Moderator: Mr Prashant Shekhar, CorpStage</p> <p>Chairperson: Mr Praveen Garg, IAS (R) Advisor, Mobius</p> <p>Dr Aditi Mishal, CorpStage, Singapore</p> <p>Prof. Meena Raghunathan, ESG Expert</p> <p>Mr Ashok Emani, ESG Principal, NIIF</p> <p>Mr Spandan Shah, ESG Research Foundation [Online]</p> <p>Mr Arunav Sharma, CEO and Founder, Rising Sun Energy</p>	<p><b>Abu Dhabi's Environmental Education Programmes - Oral Presentations</b></p> <p>By EAD</p> <p>Aisha Al Mozroui, EAD</p> <p>Amna Al Suwaidi, EAD</p> <p>Arwa Nabil Nazmi Diab, EAD</p> <p>Denice Henson, Emirates nature -WWF [online]</p> <p>Ghada Nabil [online]</p>	<p><b>Oral Presentations of Contributed Papers</b> (schedule in next table)</p> <p>Chairperson: Dr Suprava Patnaik,</p> <p>Moderator: Dr Awkash Kumar, SAGE</p> <p>Papers</p>

Lunch Break



14:00 - 15:30		Thematic Parallel Sessions			
Session 12 Mirza Ghalib	Session 13 Tagore	Session 14 Tansen	Session 15 Amir Khusro	Session 16 Bhabha	Session 17 Fazal
<p><b>Sustainability Educators' Conclave</b></p> <p>By SEED, FEE, CEE, CRP,</p> <p>Mr. Richard Mc Donald, Future Group, Switzerland</p> <p>Dr. BC Sabat, SEED</p> <p>Ms Rekha Lalla, CRP</p> <p>Mr Kinley Dorji, Bhutan</p> <p>Ms Hiroko Shibakawa, Japan [online]</p> <p>Ms Malgorzata (Gosia) Luszczyk, FEE [online]</p> <p>School Principals: Ms Monika Mehan Ms Alka Kapoor</p>	<p><b>Handprint Methodology- Experience Sharing</b></p> <p>By CEE</p> <p>Mr Kartikeya Sarabhai, CEE</p> <p>Ms Archana Panicker, CEE</p> <p>Ms Khusbhu Shah, CEE</p> <p>Ms Preeti R, CEE [Online]</p> <p>Ms Archana Bhatnagar, CEE</p> <p>Mr Arnav Macia, FEE [Online]</p>	<p><b>Higher Education</b></p> <p>By UNEP</p> <p>Mr Sam Barratt, UNEP</p> <p>Prof Fawzia Tarannum, TERISAS</p> <p>Ms Jyotsana Tiwari, NCERT</p> <p>Prof. G D Sharma, V C, USTM, Shillong</p> <p>Prof Prithvi Yadav, V C, Symbiosis University</p> <p>Ms Gayatri Raghwa, UNEP</p> <p>Ms Carina Mutschele, UNEP</p> <p>Dr Durga Kamat, SCCN</p> <p>Prof. Emily Stott</p> <p>Dr Poonam Kumaria, Miranda House</p> <p>Dr Raman, SBSC</p>	<p><b>Digital Solutions to Sustainability Education</b></p> <p>By IGNOU, NIOS</p> <p>Prof. Sachi Shah, IGNOU</p> <p>Dr Deeksha Dave, IGNOU</p> <p>Dr Anshul Kharbanda, NIOS</p> <p>Prof. Jaishankar R Nair, Digital University, Kerala</p> <p>Ms Saumya Sil, Unacademy</p>	<p><b>Sustainability With Circularity</b></p> <p>By CIT, Kokrajhar</p> <p>Moderator: Mr Shrawan Kumar, Mobius Foundation</p> <p>Chairperson: Dr Vimal Katiyar, IIT, Guwahati</p> <p>Pranab J. Patar, Global Foundation, USA</p> <p>Ms Dhara Kabaria, Studio Alternatives, Pune</p> <p>Prof. Joydeep Dutta, KTH, Sweden [Online]</p> <p>Mr. Norman Christopher, Sustainability Practices, USA [Online]</p> <p>Mr Hary Li, ACEF, Hongkong [Online]</p>	<p><b>Importance of Education for Achieving India's Carbon Neutral 2070 Target</b></p> <p>By GRIHA Council (TERI)</p> <p>Coordinator: Ms Archana Kushwaha, GRIHA Council</p> <p>Mr. Gaurav Shorey, PSI Energy Pvt. Ltd.</p> <p>Mr. Manit Rastogi, Morphogenesis Education Sis Prep School, Gurgaon</p> <p>Dr Rosetta Williams</p> <p>Ms Heeta Lakhani, Negotiators Academy</p> <p>Ms Priyanka Kochhar</p>
<b>Refreshments Break</b>					
16:00 - 17:30	Concluding and Valedictory Ceremonies	<p>Presentation of Summary of Sessions and Adoption of Recommendations</p> <p>Concluding Statements by</p> <ul style="list-style-type: none"> <li>Mr Pradip Burman, Chairman, Mobius Foundation</li> <li>Mr Kartikeya Sarabhai, Founder and Director, CEE, India</li> <li>Prof. Peter Fikowsky, Foundation for Climate Restoration, MIT, USA [Online]</li> <li>Mr. Anil Gupta, Founder of Honey Bee Network, Ahmedabad</li> <li>Mr. Patrick Van Veen, JGI Global, Netherlands</li> <li>Prof. Ashok Kumar, Global Foundation, USA</li> <li>Prof Prithvi Yadav, V C, Symbiosis University</li> </ul> <p>Vote of Thanks by Dr Ram Boojh, CEO, Mobius Foundation</p>			

## Program Schedule - Oral Presentations for Contributed Papers

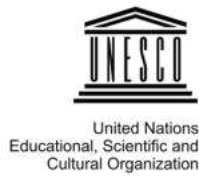
Chairperson: Dr Suprava P., Principal Advisor, AIGGPA, Pune | Moderator: Dr Awkash K., CEO and Founder, SAGE



11:30-11:35	Education for Ecosystem Restoration and Distance Learning in India	Prof. (Dr) Pramod Kumar, IGNOU
11:35-11:40	Pandemic World: Promises and Challenges in Achieving Education for Sustainability	Harshita Sharma, NIEPA
11:40-11:45	Sustainability Education in Higher Education - A Case for Teacher Education Institutions	Dr Astha Saxena, GGSIPU
11:45-11:50	Education and Water Management for Sustainability	Dr. Anand Verdhen, NIH
11:50-11:55	Role of Natural Fibre Reinforced Bio Composites in Packaging Sustainability: A Future Perspective	Vishal Srivastava, IIT-Delhi
11:55-12:00	Additional Protection to Geographical Indication (Gi) - A Tool for Sustainable Future: A Critical Analysis Through the Prism of Article 23 Of Trips Agreement and Section 22 (2) Of Indian Gi Act	Prof. (Dr.) Lisa P Lukose, GGSIPU
12:00-12:05	National Education Policy 2020 And Sustainable Development Goals	Dr. Deeksha Dave, IGNOU
12:05-12:10	New Partnerships and Connections to Improve Climate and Ocean Literacy	Iwona Gin, Nausicaa
12:10-12:15	Teaching-Learning Environment of a Non-Governmental School: A Study of Town Secondary High School in Sadar Pirojpur, Bangladesh	Md Kaium Ahammed Tanim
12:15-12:20	Intellectual Property rights and Sustainable Development - From the Perspective of a Developing Nation	Robin Jacob
12:20-12:25	A Comprehensive Literature Review on the Sustainability of Automobiles made from natural Fibre Reinforced Bio composite	Amit Patel
12:25-12:30	Rainwater Harvesting- Need of Awareness and Challenges Faced by Rural Pune	Dr Shirin Shikalgar, Symbiosis University, Pune
12:30-12:35	Informal Education in Young Adults, A Case Study of Auroville, India	Ronnii Titus R, NIT Trichy (Online)
12:35-12:40	Amalgamation of tangible and Intangible Methods- An approach to Sustainable Education	Endluri Harsha Sri, NIT Trichy (Online)
12:40-12:45	Sustainable Schools being a role model	Lahari Vishwanath, NIT Trichy (Online)
12:45-12:50	Higher Education role to achieve SDG 4: UAE Perspective	Reyaz Ahmad, Emirates Aviation University, UAE and Tariq Rahim Soomro, CCSIS, Pakistan (Online)



Post Conference - Nature trail at Sunder Nursery, New Delhi, India





## ABOUT MOBIUS FOUNDATION

Mobius Foundation, established in 2015, is a non-profit organization working towards environmental sustainability.

With the objective of creating awareness, Mobius Foundation has been spearheading various educational programmes around the country. It is setting up a residential green school in Coorg, Karnataka and a Day School in Atrouli Village, Uttar Pradesh. The Project “Aakar” is promoting population stabilization, in the two districts of Uttar Pradesh (Bahraich and Barabanki) targeting 200 villages and will further roll out across five districts with highest birth rates. It educates people on the importance of reproductive health, family planning and increasing the uptake of contraceptives. Project “Sanjeevani” is a part of many ecological conservation projects undertaken by Mobius Foundation towards environmental sustainability. As many as 150 people, school students, youth, farmers, Self-help group members, Kisan club members, officials of various departments and other NGOs have taken part in this plantation drive, at ARF R and D Centre of Chidana, Sonapat.

There are many such project and participation by Mobius Foundation in various other sectors like Mobile Health Camps, School Support Programs, Solar Street Lights installation, Toilet Construction, Training and Awareness Program on food safety and natural farming practices.

Mobius is always on the move and in constant search of opportunities where it can contribute to the world in building a sustainable future.





*theme:*  
**BUILDING  
CONNECTIONS &  
PARTNERSHIPS FOR  
A SUSTAINABLE  
FUTURE**



ICSE Secretariat,  
301, Antriksh Bhawan, 22 K.G. Marg, New Delhi-110001, India

Website: [www.icse2019.org](http://www.icse2019.org) | [www.mobiusf.org](http://www.mobiusf.org)

Email: [icse@mobiusf.org](mailto:icse@mobiusf.org) | [info@mobiusf.org](mailto:info@mobiusf.org)

Phone: 011-4985-4523 | 011-4943-3823



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