3RD INTERNATIONAL CONFERENCE ON SUSTAINABILITY EDUCATION

ICSE 2021

SUMMARY REPORT

MOBIUS FOUNDATION · UNESCO United Nations Educational, Scientific and Cultural Organization · UN environment programme · CEE Centre for Environment Education · FEE · The Climate Reality Project INDIA · teri · EARTHDAY.ORG · WWF · Earth@vershoot · Wildlife Trust of India · राष्ट्रीय मुक्त विद्यालयी शिक्षा संस्थान National Institute of Open Schooling · IUCN · POPULATION FOUNDATION OF INDIA · Pushpa Gujral Science City · TERRE Policy Centre · SUBJECT to CLIMATE The Climate Change Resource Connection · Sashakt Bharat · ICE & SDGs · FAIRTRADE INDIA

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CHAIRMAN'S MESSAGE

Mr Pradip Burman
Chairman, Mobius Foundation

Earth is entering the danger zone of being unsustainable and humans are the ones to be blamed. The planet cannot support our current lifestyle and we must be aware of what lies ahead of us. I am confident that if we start to act positively in direction of a sustainable way of living, the strong resilience power of planet earth will surely get to a balanced state. Our blueprint remains the Sustainable Development Goals.

Education is key to the global integrated framework of sustainable development goals. International Conference on Sustainability Education (ICSE) is an initiative to create youth as advocates of sustainability, at the age when they can be moulded into one. ICSE-2019 has been successfully able to set the tone of discussion and dialogues with the clear objective of delivering the outcome of awareness, education and catching the success stories related to environmental concerns. To keep up with the momentum, 2nd ICSE-2020 was organised through virtual mode, where the pandemic generated situation was kept in the center of discussion and topics like Sustainability Education and the New Normal and Sustainability Education and the Youth were discussed through several forums like New Education policy, population education and its linkage with sustainability etc.

The 3rd ICSE was organized on 9-10 September 2021 virtually with a focus on "Education for Ecosystem Restoration" and "Climate Literacy". I am hopeful that the deliberations and conclusions of the conference will be able to create environmental awareness leading towards positive action to save the planet.

FOREWORD

Dr Ram Boojh
CEO, Mobius Foundation

The 3rd Edition of International Conference on Sustainability Education (ICSE) is yet another milestone in our journey towards sustainability education which started in the year 2019 with the organization of the first ICSE on 9th and 10th September 2019 at the India Habitat Centre, New Delhi on a grand scale with participation of over 750 attendees from 40 countries. The conference, apart from serving as a platform for sharing experiences, stories and best practices on various facets of sustainability education, presented diversity of approaches and dimensions of sustainability education from a broader perspective taking into consideration global issues and challenges as well as regional and national realities. The two-day conference was attended by sustainability educators, leaders, policymakers, teachers and practitioners from various disciplines and professions and witnessed some 15 keynote addresses in 5 plenaries, 15 thematic parallel sessions, 25 exhibitions, 45 oral and 27 poster presentations besides inaugural and concluding plenaries.

The Covid pandemic forced us to organize 2nd ICSE virtually starting with ICSE forums culminating into the final webinar on 9th & 10th September 2020. The 1st Forum was organised on World Environment Day 2020 in the form of an International Webinar and School Principals Conclave on the theme Sustainability Education in COVID Era on 4th and 5th June 2020. The 2nd Forum focused on 'Population and sustainability' to commemorate World Population Day on July 11, 2020. The main webinar (ICSE II) was held on September 9th and 10th, 2020 with a focus on sustainability education and the role of youth.

The 3rd ICSE was a continuation of the momentum of the earlier two events. It was organized on 9th and 10th September 2021 on the virtual platform using state-of-the-art technology to enable the participants to experience the physical feel of deliberations. The overarching theme of the 1st Day was "Education for Ecosystem Restoration" which was chosen in line with the United Nations Decade on Ecosystem Restoration (2021-2030). The 2nd day of the

conference was devoted to the theme of “Climate Literacy”, because of the urgent need to create enlightened citizenry for concrete action on climate change.

The ICSE 2021 again reiterated our approach to looking at Sustainability Education from a holistic and integrated viewpoint as exemplified by diversity of expression and experiences shared during 11 parallel thematic sessions. We could also succeed in overcoming the limits posed by virtual meetings with the help of technology by creating elements of a physical conference online. This innovative experiment provided the participants, organizations and partners with an entirely new feel and experience to listen to keynote speeches, quality deliberations, presentations and visit case studies/ poster displays, exhibition stalls, resource centre, networking spaces, selfie booths virtually. A special session on “Mission Sustainability – Population vs Planet” was organized which highlighted the issue of population and sustainability.

I would like to express my sincere thanks and appreciation to all our distinguished partners, dignitaries, keynote speakers, breakaway session leaders, rapporteurs from Young Reporters for Environment (YRE), presenters and exhibitors for their valuable participation and contribution. My grateful thanks to Mr Pradip Burman, Chairman, Mobius Foundation for his valuable support, guidance and personal involvement throughout the process. Last but not the least, my sincere appreciation to my colleagues in Mobius Foundation for their unstinted and enthusiastic cooperation. I am thankful to Mr Kartikeya Sarabhai, Chairperson, ICSE, Technical Advisory Committee (TAC) and all the distinguished TAC members for their valuable advice, guidance and support.

Finally, I dedicate this sustainability endeavour to the continued inspiration and encouragement from all those knowledge seekers, professionals, environment and nature lovers, climate warriors and the sustainability education community as a whole.

MESSAGES
FROM DISTINGUISHED DIGNITARIES

ICSE 2021 with its theme on 'Education for Ecosystem Restoration' offers a wonderful platform for examining efforts taken so far with youth on issues of sustainability, conservation and protection of our ecosystems & explore the way forward for a transformative learning that will lead us to a better future for humans and all other living beings. On behalf of UNEP India, I wish the very best for the Conference and a meaningful discourse among all experts & organizations.

Mr Atul Bagai
Head, UN Environment Country Office, India

ICSE 2021, with its themes on 'Education for Ecosystem Restoration' and 'Climate literacy', surely has rich technical content and gives an opportunity to the professionals to showcase ideas, challenges, and solutions to preserve biodiversity and restore degraded ecosystems. It also offers a platform for young professionals to shape their career, and improve their knowledge on sustainability issues. On behalf of UNESCO New Delhi, I wish the Conference, a grand success and wish all participants a great learning experience.

Mr Eric Falt
Director and Representative UNESCO
New Delhi Cluster Office for Bangladesh, Bhutan, India, Nepal, the Maldives & Sri Lanka

The planet is in a crisis. We need immediate and sustained action at all levels. Environment education (EE) needs to lead to action. Empowering children, youth and communities to take their own Handprint actions must become one of the main goals of EE and ESD.

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

I am quite optimistic that the 3rd International Conference on Sustainability Education (ICSE) will be an effective platform for convergence of global leaders, educators, researchers, and policymakers to discuss about ecosystem restoration to create an enlightened citizenry for concrete action on climate change. I am delighted that TERI is partnering with Mobius Foundation in organization of this conference since its inception. I believe this conference will be instrumental in building momentum and interest for uptake of sustainability education and help in transforming sustainable development into a reality for our younger generations.

Dr Vibha Dhawan
Director General, TERI

It is an honour to speak at The International Conference on Sustainability Education. Sustainability is "The ability for a species to survive in perpetuity without depleting its resources or damaging the environment in which it exists." The truth is we humans are a very successful species and like any other species that adapt successfully to their environment they eventually overshoot their resources; what ecologists call the carrying capacity of the environment and they must eventually either move or contract. The problem is we have run out of places to go and new areas to exploit. We have invaded every corner of the globe and we must recognize this fact, begin to contract voluntarily, and live within the means of one planet. We have to be massive cheerleaders for a better, safer, less-crowded and more sustainable world.

Mr Terry Spahr
Executive Director, Earth Overshoot

My message for this conference is that we all dig deep and take fearless action among us. That we, as educators, will activate, empower and train our children with the life-skills that they need to survive and to thrive in the new Earth.

Ms Donna L. Goodman
Founding Director, Earth Child Institute (ECI)

International Conference on Sustainability Education (ICSE) brings an opportunity for a deep discussion on educational challenges and opportunities through sustainability aspects. It is a valuable forum to learn, exchange know-how and get inspired. We want to share this knowledge also with a group of Young Reporters for the Environment (YRE) who are active participants but also journalists spreading the message around the world.

Mr Pramod Sharma
Senior Director of Education, Foundation for Environmental Education (FEE)

Pandemics, biodiversity loss, climate change, and pollution are four of many contemporary challenges related to sustainable human living. These issues are real, and they are of great concern for human survivability in times of continuous global population increase. Therefore, every activity (small, medium or large), that contributes to raise awareness, to enhance knowledge, skills and education, and every activity that catalyses science-based activities to improve the current situation, counts. All of us, every single one of us, we have to be part of the momentum to reduce these existing global problems, and act to achieve better behaviour, and better policies and science-based regulations.

Dr Benno Böer
Natural Sciences Programme Specialist at UNESCO New Delhi

On behalf of Earth Day Network India and EARTHDAY.ORG, congratulations to Mobius Foundation for taking the lead to put together this prestigious conference for the third year running. We are proud to continue to partner the event over the years. In today's world of unprecedented changes in climate, degraded green cover, an explosion of unmanaged waste, rapid reduction in species, loss of natural wealth, and air, soil and water pollution, Climate Education provides a critical foundation on which to build climate literacy and stewardship for the environment from a young age. With this in mind we call upon governments across the globe to mandate compulsory, assessed climate and environmental education that motivates all to play a major role to help 'Restore Our Earth'.

Ms Karuna A. Singh
Regional Director Asia, EARTHDAY.ORG

In these changing times, it is imperative that all stakeholders working in the sector of education for sustainability deliberate upon the direction and areas that need impetus. We will succeed only if we adopt the best practices and collaborate to reach every educator paving the way for sustainability education. The ICSE conference is a step towards that.

Ms Radhika Suri
Director Education, WWF India

September 9, 2021

DAY 1
OPENING PLENARY

OPENING PLENARY

THEME: EDUCATION FOR ECOSYSTEM RESTORATION

"It is more necessary than ever before to hold such conferences as we are no way closer to the goals which were initiated in Paris to be achieved by 2030, we are even no way closer in 2021 as well".

Mr Pradip Burman – Chairman, Mobius Foundation

He formally opened the conference by virtual lamp lighting and ribbon cutting.
He emphasized on the need for a mass movement like **Extinction Rebellion (XR)** movement started from the UK, which urges governments to act seriously on climate change and expedite the efforts to mitigate its impact on the planet.

"This year's Sustainability Education, we must dedicate it as a Hope for the Future"

Dr Ram Boojh – CEO, Mobius Foundation

He introduced the idea and concept of holding the 3rd ICSE in alignment to Education for Sustainable Development (ESD) 2030 which was launched with the popular theme #LearnForOurPlanet.
He also mentioned the world over curriculum analysis survey of UNESCO which came out with the data that only 50 countries moderately mentioned climate and sustainability terminologies in their curricula and 19% speak about biodiversity with very little mention of sustainability. This analysis leads to the recommendation, which states that "**All Education systems must include sustainability education as its core component at all levels by 2025**".

Mr Atul Bagai – Country Head, UNEP - India

"Unhealthy ecosystem will lead to unhealthy life for a human being"

Mr Atul Bagai speaking as the chief guest of the event shared his views, the urgent need to revive the damaged ecosystem. He mentioned the reports like 6th Assessment report -IPCC, Global Assessment Report on Biodiversity and Ecosystem Services (IPBES)-2019, State of the World's Tree Report which estimates that 30% of the world's trees are facing extinction. The underlying factor of such assessments shows that the health of the ecosystem on which all other life forms depend is deteriorating more rapidly than ever affecting the very foundation of our economies, our livelihood, our food security, health and quality of life worldwide. Everyone should understand that ecosystem forms the fabric that continues to support all life on earth.

The people should realise that the healthier they are healthier the planet and its people would be. He pressed upon this message as a key message, which may be taken as key objectives to be achieved through environmental education in the next 10 years. Maintaining and restoring ecological integrity is the first goal of not only the post-2020 framework on Biodiversity but even the United Nations Framework Convention on Climate Change (UNFCCC) which need to look at their five priority areas; Capacity Building, Gender balance, Coherence, Gender-responsive implementation, Monitoring and reporting.

India is emerging as a leader in restoration with the commitments under Bonn Challenge 2015 to restore 21 million hectares which were further raised to a target of 26 million hectares by 2030. Two big missions on dolphins and Asiatic lions have been launched.

He concluded **"I wish and I hope that the ICSE which has taken up the theme of Restoration of Ecosystem this year would play a very large and important role in the coming years. In two days, the conference we can lay the foundation for scaling up the restoration efforts through the decade and UNEP would be very happy to be associated with the Mobius Foundation, with CEE and with all the other partners to see that all collectively we can take these efforts forward, for making the decade useful decade for preserving the nature and for preventing more harm to the human beings that we have inflicted on our shelves"**.

"8 billion angels tell the truth about conflict between the size of the population and sustainability of the planet."

Mr Terry Spahr – Founder & Executive Director, Earth Overshoot

He Shared a 'Trailer video' of his documentary named **8 Billion Angels** which according to him, have been filmed all over the world but its heart and soul truly lies in India. 8 billion angels are the first feature film to depict unsustainable population growth which adds to the struggles and challenges average people face in their daily lives. This film is a means to break the silence on the unsustainable population growth and is very interestingly aligned with the television series of the Mobius Foundation **Mission Sustainability population vs planet**.

Mr Kartikeya Sarabhai – Padma Shri Awardee, Founder & Director CEE

"ICSE has really and truly been a joint effort of several organisations and individuals and I have the privilege of Chairing the technical advisory committee of ICSE but I think it's important to note that how these organisations can work together and can come together not only for these two days event but the time leading up to it and leading beyond it."

Underlining the relevant facts, he said that in 1991 Supreme court of India said that Environment Education needs to be a compulsory part of our formal education system and then in 2003 it was restated, so we today have a generation of young people who have gone through some formal environmental education.

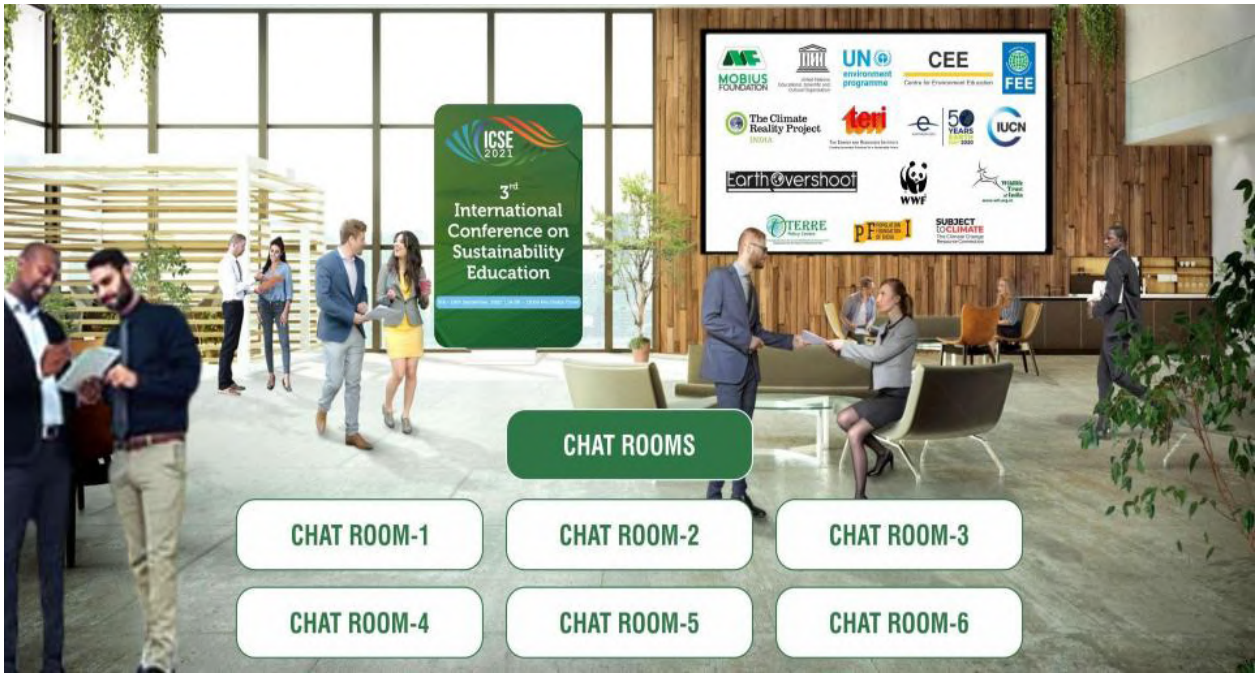
CEE had been into Environment Education for several years since 1984 and one question people ask me -Do you see a difference? Answering to this he said- There is no doubt that young people today are much more aware than what was several years ago, many of them are doing things, they do actions and what is more necessary than today action required to a scale. As we can see that their lot of sensitisation and people have started doing environmental actions like shunning of plastic bags, segregating waste, they might use less energy, they might plant more trees, green their environments but the point is that these actions need to be taken all together to a scale which can bring in some visible changes while fitting into global actions being taken.

He emphasized that Action at the school and community level need to fit in at a scale through which we can reverse or stop certain adverse effects. We need clear indicators and fewer indicators that everyone could see. I think a conference like this addresses the need of coming together and by using the tremendous power of environmental education and education for sustainable development to make the transformation which is required".

Navigating through and exploring State-of-the-Art Facilities of the Virtual Conference

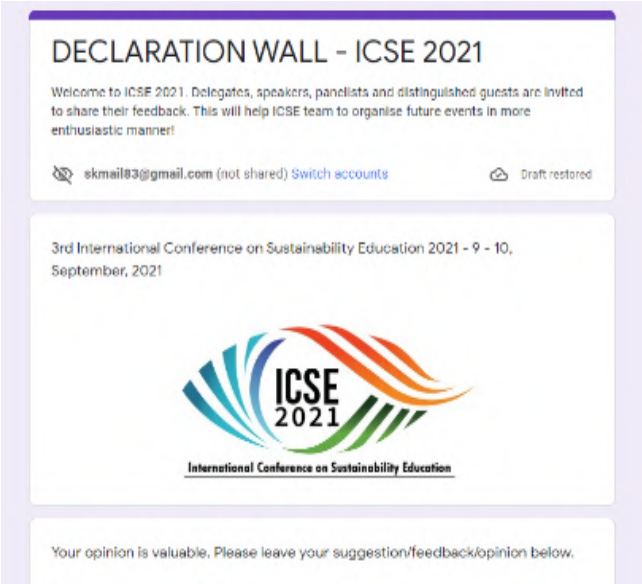
Stalls

Networking Lounge



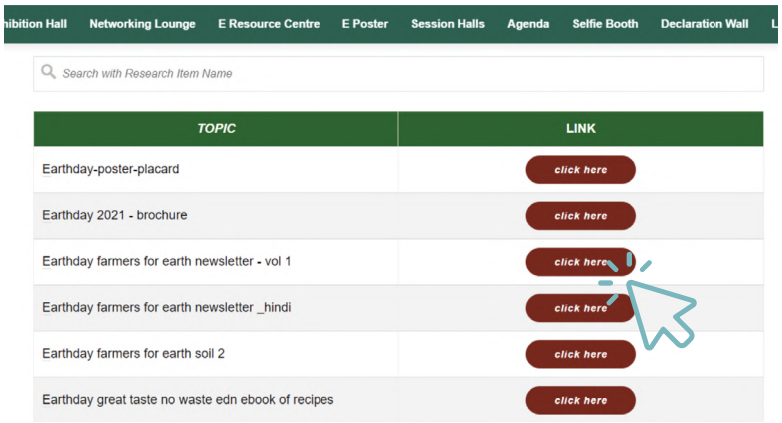
Selfie Booth

Declaration Wall



Lobby

E-Resource Centre



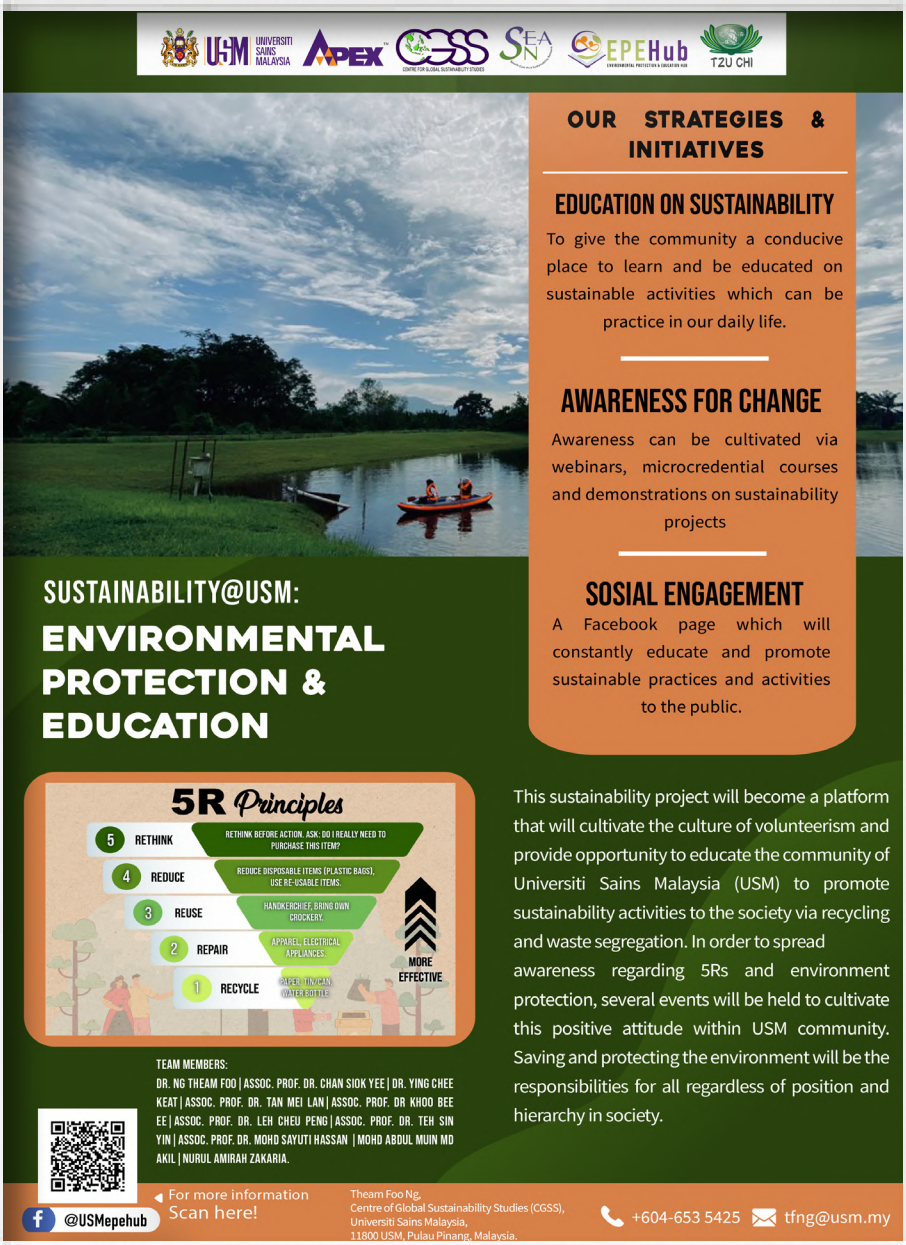
E-Posters


CAUSES
GREENHOUSE EFFECT
1.1–1.6°F (0.6–0.9°C)
Work Together to RESTORE Destroyed ECOSYSTEM
EFFECTS
SOLUTIONS
Recycle
Reuse
Reduce

E-Posters

Poster by: Himangi Halder, Grade 10 Student from Bilaspur, Chhattisgarh, India

E-Posters



Poster by: Theam Foo Ng & Team, Centre of Global Sustainability Studies, Malaysia

September 9, 2021

DAY 1
BREAKAWAY SESSIONS

SESSION 1
SCHOOL EDUCATION

Associated Organizations

MOBIUS FOUNDATION

CEE
Centre for Environment Education

WWF

Introduction

There have been several efforts at global, national, state and local level in past few decades which are working towards bringing environmental sustainability concerns in schools. With the launch of the Agenda 2030 and associated 17 Sustainable Development Goals (SDGs), role of education has become critical in achieving sustainability and solving pressing global ecological issues including biodiversity and climate change. Among these 17 SDGs, the goal 4 and target 4.7 emphasizes critical role of education in engaging schools in preparing young learners and empowering educators to include sustainability principles in the curriculum and pedagogies in an appropriate manner. Further to this, the year 2021 marked the launch of the United Nations Decade on Ecosystem Restoration (2021 – 2030). Education for ecosystem restoration needs to be seen integral part of our approach to sustainability education in order to protect our planet. The recent National Education Policy of India launched in 2020 emphasizes on integrating sustainability education to prepare learners with requisite knowledge, values, attitude and thinking skills to work towards finding solutions.

Keeping this in mind, annual sustainability education conference was organized by Mobius Foundation which was focussed around the theme of education for ecosystem restoration and climate literacy. The **3rd International Conference on Sustainability Education (ICSE)** was organized on **9-10 September 2021**. As part of the conference, a breakaway working session was organized on school education on 9 September 2021 which was facilitated by Centre for Environment Education (CEE), India in association with several WWF India.

The School Education session was conducted for one-hour duration which focussed upon discussing, reviewing efforts and recommending how sustainability education could be integrated with the ecosystem restoration and SDGs. The session was attended by EE/ESD experts, educators, practitioners, etc.

Objectives

- To review existing school curriculum and practices related to sustainability education.
- To share experiences of current practices in schools with respect to whole school approach and teachers support and preparation towards sustainability education.
- To analyse scope of integrating ESD 2030, NEP 2020 and UN Decade on Ecosystem

Restoration framework in the school education.

- To consolidate recommendations emerged through discussions.

Summary of the Presentations and Discussions

Ms. Preeti R. Kanaujia, Senior Programme Director, School Education from CEE India extended a warm welcome to all the participants, panellists and expert speaker for joining the session. She invited Ms. Sulagna Roy, Project Lead Formal School Programmes, EE Division, WWF India to share a short film on nature education. Ms. Preeti shared purpose of the session and how the session is planned to discuss key points keeping ESD 2030 and National Education Policy framework and how UN Decade for Ecosystem Restoration can be integrated. She invited guest speaker's Dr Chong Shimray from NCERT to share her thoughts and insights with participants.

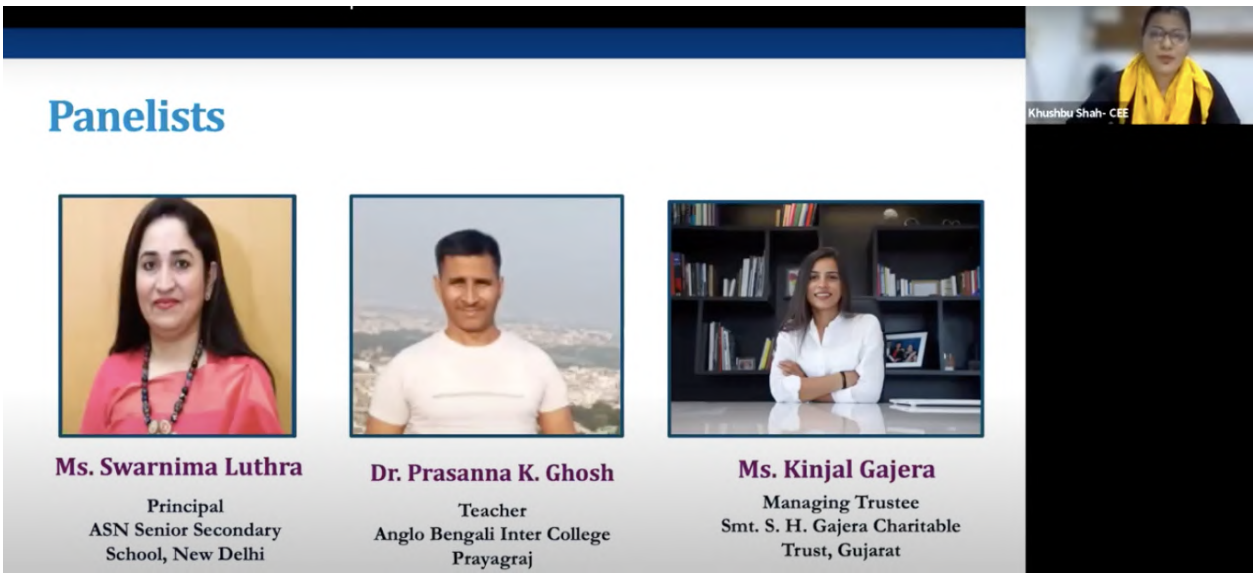
Dr Chong Shimray, Associate Professor, Department of Education in Science and Mathematics, NCERT, India presented her thoughts and following points were highlighted in her session:

- Recent efforts in the infusion on EE in subject disciplines not just in science or geography but in other subjects like mathematics, social science, arts, languages have been challenging. As, EE has always been seen as a part of science and geography.
- When environmental concepts or environmental concerns are taught in classrooms, it is not only about teaching science but there are several aspects to EE. EE has to be interdisciplinary. For example: When we speak about climate change, we have to teach about the science behind it and also the social, economic, cultural aspects and challenges of the same.
- When a science teacher is teaching about greenhouse effect or climate change, he/she can talk about some aspects of social, economic and cultural impacts. This is applicable to all subject teachers who are teaching EE and ESD concepts.
- In order to make EE or ESD more meaningful, all subject teachers need to adopt this interdisciplinary approach.

- The current teacher preparation programmes do not include this infusion approach. The first step will be for people who frame teacher preparation programmes to include infusion approach into it. It is important to train and help teachers adopt this approach.
- NEP is revamping teacher preparation programmes. And teachers are expected to meet Learning Outcomes (LO) for different classes and different subjects. So, it is important to find ways to incorporate ESD competencies, SDGS and LOs in the teacher preparation programmes.
- Whole school approach does not include only teachers but it involves all stakeholders including teachers, students, parents, school heads, and administration, all staff associated with the school system.
- Role of parents is crucial in this. Especially with EE and ESD when students take up assignments at home (ex: kitchen garden) it is important that parents are interested and involved in this.
- Ethos of the school must be sustainability and all stakeholders must be a part of this process. It is challenging but in order to make EE and ESD meaningful, bringing together all stakeholders and having them invested and interested in this is important.
- NEP talks about sustainability, sanitation and hygiene, traditional practices, organic farming, forest management, pollution and many other topics related to EE and ESD. How do we incorporate the sustainability competencies holistically without just teaching subjects as subjects?
- When we talk about sanitation and hygiene, do we just talk about what sanitation and hygiene is or should we also talk about people who are economically vulnerable and their access to sanitation and hygiene facilities?
- All stakeholders of the school systems need to think what teaching learning approach will lead to a holistic sustainability learning?

Panel Discussion

Ms. Khushbu Shah, CEE moderated the panel discussion. Ms. Khushbu introduced the panellists of the session and invited Ms. Kinjal Gajera to share her experience of integrating ESD in 18 schools as an administrator.



Ms Kinjal Gajera, Gajera Charitable Trust shared her experience of ESD work being done across 18 schools in Gujarat. Following points were highlighted in her talk:

- Create an environment where youngsters are confident and are willing to work, learn and develop for an impact and progressive living. Nature education influences young minds on a deeper level. Nature education kindles in children qualities of transition, exploration, curiosity.

- Gajera Trust works on several aspects of sustainable development including:
  1. increasing green cover
  2. reducing and recycling non-biodegradable waste
  3. incorporating of SDGs in schools

- Gajera trust also
  1. conducts nature walks, agro-tour
  2. teaches eco products making and terrace gardening
  3. trains students in farming, plantations

She shared few initiatives of Gajera trust which are being done in collaboration with CEE, as seen in the following table:

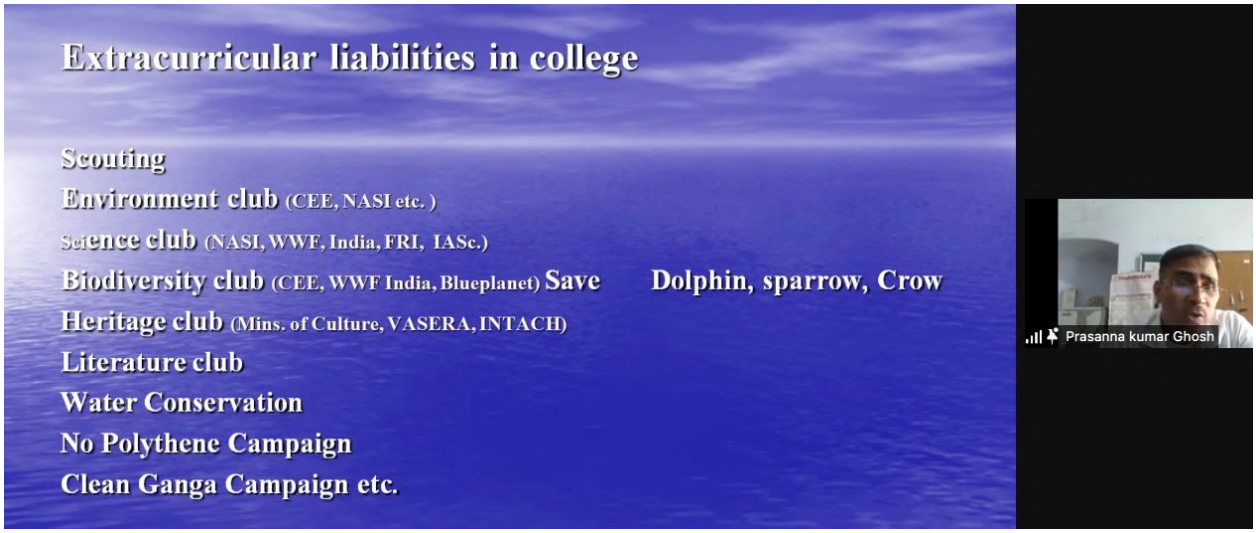
*** Plantation & nursery development in milk polybags and disposable bottles, by the learners.**	
Nature Walk: a visit of the school campus by the learners	**Plant holder competition - from unused materials**
Workshop on monsoon vegetable plantation	**Monsoon In My Eyes - drawing competition**
Eco-friendly Rakhi making competition	**Workshop - Eco-friendly Ganapati**
Go-Green drawing competition	**Nature & historical place photography**

Next panellist **Ms. Swarnima Luthra, Principal, ASN Senior Secondary School, Delhi** shared her experience of implementing ESD activities and adopting whole school approach highlighting following points:

- Core value of the school is environmental consciousness.
- School has an environmental policy that includes no plastic zone, solar panels for electricity, energy efficient LED lighting, rain water harvesting systems within the school campus
- Experiential learning for students through several activities like composting, gardening, waste audit, etc.
- Multi-faceted curriculum with the inclusion and integration of SDGs.
- School has been engaged several ESD initiatives offered by MOEFCC, CEE, WWF, CSE, TERI etc.

Dr. Prasanna K Ghosh, Teacher, Anglo Bengali Inter College, Prayagraj shared his experience of working with students as Science and Biology teacher.

- Working through scouting, eco club, campaigns, science and heritage focused activities. He has encouraged working through team or group approach to engage students in awareness and action activities.
- Eco activities taken up by students are linked with their academic assessment, which helped in getting interest among students.
- Eco friendly practices are taken up by student in the field of water conservation, waste management, art and heritage etc. in the school campus. These actions are further shared with through community outreach programme.



Key Outcomes/ Way Forward

School session looked in to following four aspects for consolidating the outcomes of the discussion:

1. What are your experiences of implementing sustainability education in school (share your strategies, opportunities, challenges etc.)?
2. What are your suggestions on NEP 2020 policy rollout to bring due focus on strengthening sustainability education?
3. What could be different strategies to use ESD 2030 and ecosystem restoration to develop school sustainability plan and train our teachers?
4. In what way, do we we rethink learning environments – physical as well as virtual and online – to inspire learners to act for sustainability?

Experiences of Implementing Sustainability Education in Schools

Following challenges emerged during the session which are faced by schools and teachers while integrating sustainability education:

- Curricular load and time constraint
- Key subject disciplines are given more focus (Science and Geography)
- Schools and teachers need to be prepared

Schools and teachers have used opportunities to create ways of integrating ESD in schools:

- Integrating in current curriculum engaging all stakeholders in schools.
- Action projects and participatory learning is being promoted.
- Subject enrichment along with its linkage to assessment.
- Curricular and extracurricular approaches are adopted.
- Conducting school to community connects programs.
- Participation of various stakeholders is helpful in taking up sustainability education.

Suggestions On NEP 2020 Policy Rollout

Following suggestions were shared during the session:

1. EE is being dealt through infusion approach, but there is need to review and strengthen to make it interdisciplinary.
2. EE/ESD has to be interdisciplinary – along with science, students must be taught about other aspects including social, economic, cultural impacts
3. Learning Outcomes have been defined which needs to be integrated along with sustainability competencies.
4. Life skills must be taught as a part of sustainability education.
5. There is need to allocate time and space to focus on concepts related to ecosystem, climate change, DRR, etc.
6. All teachers in the schools needs to be involved for transacting sustainability education.

Strategies to Integrate Sustainability Education in Schools and Teacher Education

Following strategies were suggested as part of outcome for schools and teacher's preparation:

1. Schools successfully implementing sustainable campus approach must be given role of 'Lead School'
2. Document success stories to showcase ways to integrate ESD.
3. Connect schools with new innovative EE & ESD programmes and initiatives.
4. All stakeholders of school campus need to be engaged from planning to implementation.
5. Engaging parents is critical to success of whole school approach.
6. It's time to revamp teacher preparation as part of NEP 2020.
7. Orientation sessions on specific aspects related to sustainability education.
8. Short-term training courses to link curriculum with key issues linked to ecosystem restoration and climate changes.
9. Teaching learning resources for classroom transaction:
    - Online tools and web resources
    - Teachers guidebook
    - Activities
    - Ideas and guidelines for Action Projects

Learning Environment for Students

It was suggested by the group that learning by doing is must for sustainability education to engage learners in meaningful way. Following approaches were suggested:

- Experiential learning
- Learning from nature
- Empower them with knowledge and skills
- Problem solving and participation in decision making
- Action research projects etc.
- During covid, promote student led initiatives with their parents
- Participation in various online global and national initiatives
- Engaging students from very young age to inculcate importance of positive action.

SESSION 2
I.T. BASED SOLUTIONS FOR EDUCATION

Associated Organizations

Background

The global pandemic has led to a major global learning crisis in addition to a global health crisis. 82% of the world's learners are no longer in traditional schooling or education programs. On the path from disruption to recovery, the educators and educationists across the world have recommended online learning and education technology as a solution to reach learners remotely. While there are huge challenges due to limited digital infrastructure in education and a massive digital divide among the larger population, the realm of Edutech is constantly evolving to overcome these challenges.

A significant shift to online learning and education technology had begun in the last decade and the pandemic has accelerated the pace of this shift due to remote or distance learning being the only option left owing to school closures.

The other important aspect to consider is the affinity to technology that is evident among the new age learners. The educators along with learners are adapting to the new normal and innovating to use technology to design effective lessons and embed sustainability education into the school curriculum. The positive effects of IT based solutions for education are enhanced digital literacy, worldwide exposure and better access to digital resources and learning material, enhanced self-learning through immersive and interactive digital tools.

There needs to be greater emphasis on strengthening the digital infrastructure for education, building teacher capacity on leveraging digital tools for education. The NEP 2020 emphasizes upon ensuring equitable use of technology in education which will unravel new horizons and opportunities. With DIKSHA and multiple other platforms the govt. has already established their intent and inclination towards IT Based solutions for education.

Introduction

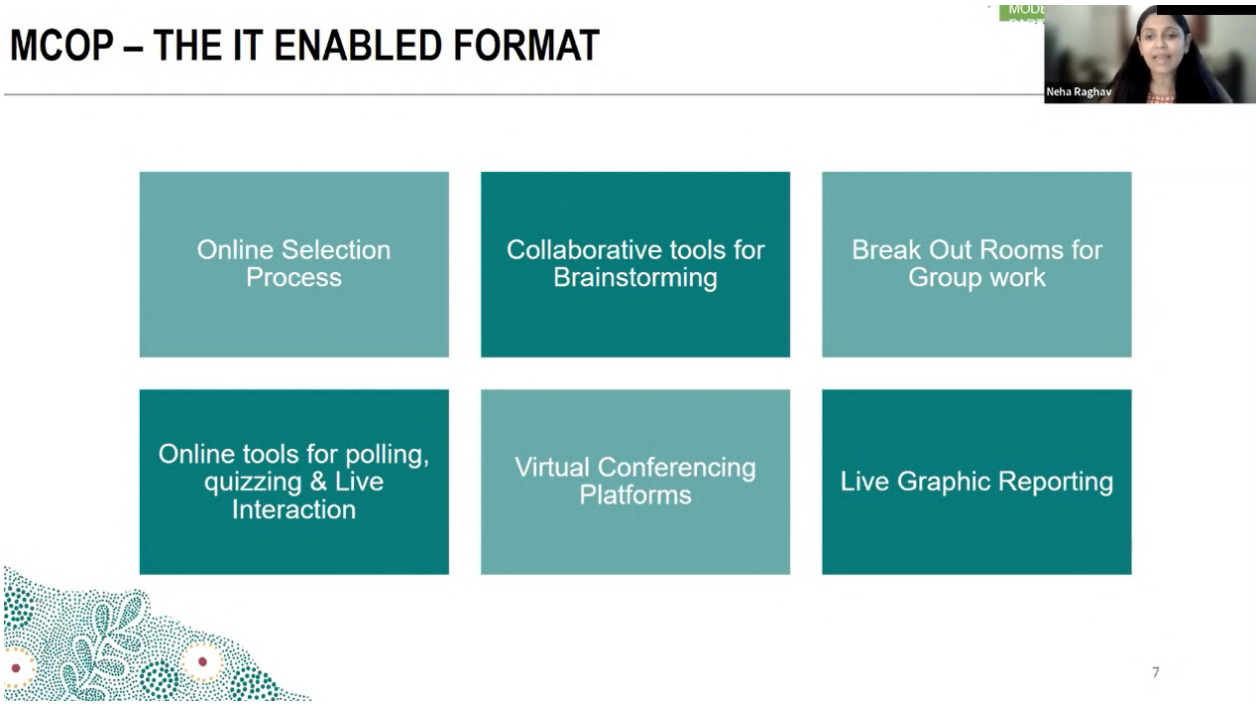
The breakaway working session on 'IT Based Solutions for Education' was planned to discuss and review current status of IT based solutions in education that can be applied to embedding and integrating sustainability education into the school education. The session highlighted various tools, digital platforms and programmes for sustainability education. It was attended by Edutech experts, educators, practitioners, etc.

Objectives

1. To discuss various IT based tools for education and initiatives by government and non-government agencies for driving in technology in education.
2. Discuss ways in which the above tools and initiatives can be of leveraged for climate and ecosystem literacy.
3. To experience IT based pedagogies for an immersive, simulated, experience and action-based approach to learning about environment and sustainability.
4. To consolidate recommendations emerged through discussions.

Summary of the Panel Discussion

Ms Neha Raghav, Specialist Content and Training Education WWF and session leader extended a warm welcome to the panelists and briefly introduced them. Further, in tune with the session theme on Information Technology based solution for education, she presented the Model conference of parties (MCOP), a 5 days virtual conference and highlighted its various features and IT-enabled format which underscored the utility of IT-based platform to facilitate students/youths to participate in a brainstorm, online quizzing, discussions and graphic reporting.



After her presentation Ms. Neha Raghav invited Ms Shriya Rai, Founder Shashakt Bharat to moderate and take the discussion further in panel discussion mode. Ms Shriya Rai set the tone of discussion by highlighting IT as the one and only solution for educators and learners to adapt new normal in corona pandemic situation.

What has been the competitive advantage of shifting education online and what are the opportunities educators can envisage from strengthening distance, digital and self-learning interventions?

Dr. Pramod Sharma emphasized upon the need and importance of IT network and tools to share the knowledge but also in interactive way. He said in the absence of Interactive IT platform it will be just like replacing a blackboard with screen. He also mentioned the case of Young reporters wherein social media, blogs and websites are being used as tools to disseminate information and how these tools draw highest engagement during corona pandemic.

He further states that corona pandemic has increased the pace of digital literacy among the educators but the engagement of learners and retention are the key challenges of this format. Discussing about one Application based tool he shared a success story of engaging 9000 students for 21 days, through which he highlighted the importance of social and community factor in bringing out more retention and engagement with co learners through IT tools. Synchronization between online and offline activities will further add to the quality deliverance and retention at learner's end.

To take the panel discussion further, Ms. Shriya Rai posed the below given interlinking question to Ms. Anshul Kharbanda of NIOS.

How are organizations leveraging new-age online tools & technologies to promote climate literacy and sustainability education?

Ms Anshul Kharbanda shared her experience at NIOS and emphasized that a multi-channel approach needs to be adapted with an eye of choosing appropriate technology rather than searching for high end technology. In-country like India with diverse group of learners and their varied accessibility to IT tools and formats, a multi-channel approach of deliverance needs to be adapted. She gave the example of Swayam, Dikhsa, Virtual Schooling and you tube, Mukt Vidya Vani (a radio program) etc. to validate her point. She further elaborated the advantage of digital platform for teachers, learners and administrators in terms of disseminating information to a diverse group and underlined the usage of IT tools and mechanism for timely assessment, real time progress analysis and informed decision making. She further highlighted the challenges like poor digital infrastructure, digital devoid and low accessibility to internet, which are the big constrains in disseminating knowledge through digital platform.

Drawing quick outlines out of deliberations of Dr. Pramod and Ms. Anshul Kharbanda, Ms. Shriya Rai kept the discussion live through a well-directed question for Ms Neha Raghav.

How can partner organizations increase the scale and scope of digital education programs by building collaborative opportunities to engage learners across the country?

Ms Neha Raghav in answer to this question said that adaptability to IT tools and their usage is one thing but to be equipped with strengthened capacity is more important for an educator to pick the right stuff and deliver it to students. She also raised the issue of cyber security particularly at a time of delivering information to children. She urges to organizations for a planned collaboration to create a journey for educator to strengthen his understanding for sustainability education.

In flow with the above questions and discussions, Ms Shriya Rai poses the last question to Dr

Pramod Sharma.

What are the specific challenges educators have encountered while offering sustainability education programs in terms of accessibility, padagogical design & learner engagement – and what kind of support is required to strengthen the digital infrastructure & teacher capacity to educate about the environment and sutainability?

Dr Pramod Sharma in answer to this started by saying that focus should be on curation, not creation. He further discussed that lots of money, time and expertise is being devoted to the development of resources which is affecting the dissemination process, for that he also highlighted the need to collaborate with the right partners with adequate resources so that a quality deliverance can be ensured. He further pressed upon the need of being focused on the goals of quality deliverance, capability to differentiate between unwanted and poor-quality content and also mentioned a word of caution to not lost in the means and false satisfaction of deliverance. He underscored the importance of behavioral change rather than just generating an affinity towards the environment and contents related to it.

Key Outcomes/ Way Forward

Ms Neha Raghav presented the key conclusions of the second parallel session on "IT based solution for Education" in the concluding plenary of Day 1.

1. We need to catch the affinity of children towards technology in terms of education through IT tools however at the same time teacher's capability to impart quality information in terms of environment and sustainability needs to be work upon.

2. Digital format needs to be created as immersive mode of disseminating the information, particularly in the situation of low span attention for the digital content.

3. Provisions of generating community sense and socialization embedded in the IT tools has seen a better engagement and larger retention time.

4. Multi-channel approach is required in the country like India to address the challenges of digital devoid. In areas of poor net accessibility, platforms like community radio etc. may

play a transformative role.

5. Issue of cyber security, particularly for children is matter of concern.

6. Digital devoid and poor state of IT infrastructure are the biggest challenges.

7. Along with digital literacy, capacity building of educators is a must to enable them to pick the well-informed right content out of plenty of low-quality content available.

8. Collaborations among the various organizations not only prevent replication of resources but also open up the right approach to curate the existing content for quality deliverance.

SESSION 3
ROLE OF YOUTH

Associated Organizations

Introduction

The Parallel session was particularly important as over 60% of the world's youth live in Asia-Pacific. Almost half of these youth are concentrated in South and South-West Asia. It is important therefore to ensure that young people are involved at all levels of decision making and action towards sustainability. Ecosystem restoration efforts need to take cognizance of the potential resources, creativity and innovation that young people can contribute. Also, the impact of degradation and deteriorating ecosystems would be felt most by them.

The session was organised by CEE, TERRE Policy Centre, The Climate Reality Project India, TERI, WWF and Mobius Foundation. The session had 6 youth panellists from India and South Asia focusing on a diversity of areas of their work in ecosystem restoration, environmental awareness and action.

Youth would need the requisite knowledge and skills to be able to participate actively and take leadership roles in ecosystem restoration. They will require platforms where their voice is heard and opinions considered. Youth have been involved individually, through their academic pursuits, and interest in sustainable development, in taking citizenship action. Their journeys would be a learning for other young people. The session at the ICSE was an attempt to bring out various ways in which youth can get involved in ecosystem restoration.

The youth shared inspiring stories of urban rejuvenation such as growing mini forests, or, restoring a polluted urban stream, restoring of grasslands and corridors, education, capacity building and support for augmenting livelihoods of tribal youth especially girls, using educational institutions as spaces for experiential learning and influencing mind-set change, using and understanding the importance of scientific research when restoring ecosystems, and forming youth advocacy and action networks to engage and educate other youth. These 6 panellists demonstrated leadership roles youth can take at various levels.

Objectives

- Knowledge about variety of ideas and ways in which youth are engaging and can further engage in ecosystem restoration.

- Youth to have the opportunity to network and learn from each other's work.

Ms. Sheetal Antil moderated the session. She made the introductory remarks to begin the session. Ms. Madhavi Joshi gave her remarks on Education and Role of Youth in Ecosystem Restoration to set the tone of the session.
Ms. Sheetal Antil, from provided a quiz to show that restoring 15% of converted lands in the right places could prevent 60% of projected species extinction. Further to that the youth panellist shared their work with the audience.

Summary of the Presentations by Panellists

Ms. Kamini Singh, Climate Reality Leader and Sparsh
Topic: Ecosystem restoration in tribal & Maoist affected areas of Orissa
(Screengrab from her presentation as the 1st image on next page)

- Involved in Youth for SDG
- Shared about Mission Million fruit trees
- Talked about digital exposure for youth in rural areas
- Shared about the implementation of solar powered learning spaces
- Shared about the community library for the locals.

Ms. Sneha Shahi, UNEP Tide Turner Champion
Topic: Urban stream restoration in Vadodara
(Screengrab from her presentation as the 2nd image on next page)

- Shared about the challenges she faced when cleaning the stream.
- Some factors to polluted streams are unchecked disposal of solid waste and improper planning of sewer systems in few wards.
- Found various animals living in the stream after cleaning, such as alligators.
- The project to rebuild the bridge was put on hold due to the Covid-19 Pandemic.

Mr. Samarth Khanna, Climate Reality Leader

Topic: Urban rejuvenation projects in NCR (Snapshot from his presentation above)

- Started a Mini Forest project in the National Capital Region (NCR)
- They made a small green island in the round about. Three hundred cars pass through this area.
- A highly polluted area
- The reality: The waste was segregated, each and every waste to be sorted better.

- Neighbourhood children helped to clean.
- The soil pollution was terrible because there was also waste below the surface of the soil.
- “The soil was so hard that the roots could not spread”- Mr. Samarth Khanna
- Months after the cleaning it has become a biodiverse heaven.
- The water the trees with rain puddles from the town.
- Dragonflies were attracted to the area. The dragonflies helped by eating the mosquitoes.
- 48 species of birds became residence of the Mini Forest.

Ms. Mrunali Raut, GYBN – Research On Restoring Vulnerable Corridors At Naveogaon

Topic: Ecological restoration for coal mines and degraded land

- Make sure wildlife habitat is actually restored to pre-mining conditions and functionality and is not merely “restored” to an aesthetically pleasing condition.
- Need to track invasive species throughout the reclamation process.
- Take support of indigenous and local communities in the complete restoration process.

Mr. Chinmay Prakash Sawant, GYBN

Topic: Restoration of Grassland Ecosystems in Kiraksal region

- Mr. Chinmay Prakash Sawant is working with Grassland Ecosystems. The aim is to improve the environment of Grasslands to become better habitats for wild animals
- Examples of endangered animals spotted in the area: Indian Wolf and Striped Hyenas
- Addressed his involvement with Ecological Restoration for coal mines and degraded land.

Mr. Tshedrup Dorji, Youth Advocacy Network, Bhutan

Topic: Education and Empowering youth in Bhutan

- He mentioned that youth make more than 50% of the population.
- The youth are first generation democratic Bhutan
- He shared about the Tree hugger campaign done by the youth.
- He also talked about the Kitchen waste composition which is used as fertiliser for plants.
- Mr. Tshedrup Dorji said "They (the youth) are saving our future."

During interaction the platforms and avenues for engagement for the youth were discussed. The expert panellists were Ms. Radhika Suri, WWF-India and Dr Livleen Kahlon, TERI, they informed about the various avenues available for youth majorly in WWF-India and TERI respectively.

While speaking on the platforms Ms. Radhika Suri said, **"Do whatever you do with a lot of wisdom."**

Dr. Livleen Kahlon guided the youth by saying, **"You should not go on an activist mode without enough knowledge on an issue."**

The session concluded with remarks from Ms. Madhavi Joshi, she stated that **"The beauty is that it (Ecosystem restoration) can happen at any scale and everyone has a role to play". She added that young people are not to be exploited, and that young people are too little involved in Climate Integration.**

The session had a great response from experts and individuals from various background. The take away from this session will surely help in carving out a way to involve maximum number of youths those lead by Youth to bring upon Ecosystem Restoration.

Takeaways from the Session

1. Youth need sensitization, awareness and knowledge on issues of climate change especially in their local contexts, for them to understand these and seek solutions adapted to the local context.

2. Youth need to be aware of the involvement of multiple stakeholders in an issue and therefore the importance of engaging with communities, and other stakeholders when undertaking restoration or another on-field work.

3. Ecosystem restoration efforts need to be able to look at livelihoods especially of marginalized young people, such platforms and skills should be developed.

4. Schools and Universities provide the spaces for experiential learning opportunities to youth for developing sensitivity, knowledge and skills to act and develop models that they could work on and share with others.

5. Scientific research is a necessary component to ensure ecosystem restoration solutions are based on well researched facts and knowledge. Young researchers can contribute to this knowledge through their field researches and as part of teams that are engaging in on-site ecosystem restoration work.

6. Various organizations need to provide youth relevant platforms, opportunities and skills to participate meaningfully in sustainable development. New age skills especially such as design thinking, systems thinking etc. can be important areas which youth require to have to influence change with a lasting impact. For many young people, opportunities such as

digital literacy, financial literacy etc. can help bridge the divide and improve their access to a more sustainable life.

7. Youth need to be involved in decision-making at all levels by the government to ensure that their concerns are adequately addressed and their ideas are considered.

8. Advocacy is very important for youth to engage in and a way to influence decision makers. Youth need to be a part of movements and consciously build their voice.

9. Youth networks and coalitions have the power to bring about change, influence and create a momentum for movements. These need to be encouraged and supported.

10. There is a lot of potential in youth-led action but young people are not a resource to exploit. Their actions should never substitute the responsibility of grown-ups who hold political and economic power – Finding from study by Global Centre for Adaptation and CEE.

SESSION 4
CLIMATE LITERACY LEADING TO GREEN JOBS

Associated Organizations

MOBIUS FOUNDATION

EARTHDAY.ORG

RESTORE OUR EARTH

Introduction

The Session focused on **"Green Jobs and how climate literacy is important to create green jobs"**. Millions of green jobs are now opening up in various sectors, to help protect ecosystems and biodiversity; reduce consumption of energy, water, and other natural resources and materials through high-efficiency strategies; de-carbonize the economy; minimize or altogether avoid the generation of all forms of waste and pollution; for green buildings.

Education has a crucial role to play in building the workforce for green economy. To ensure that more and more people take up jobs in Green Economy (both rural and urban) depends on creating a **'Climate Literate Population'**.

Objectives

- Establish Climate Literacy as the need of the hour
- Create more green jobs, eco-preneurs, and sustainable livelihood opportunities

Panel Discussion

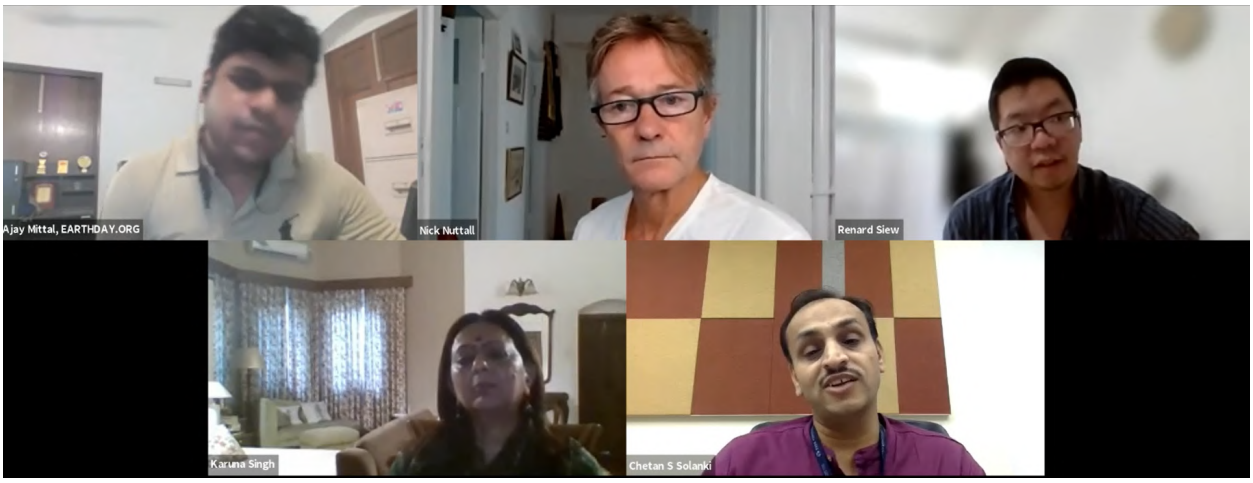
The Importance of Climate Literacy in the Growing Green Economy

Mr. Nick Nuttall, **International Strategic Communications Director, EARTHDAY.ORG,** spoke about UN context of UN Conference on Climate Change (COP 26) as a major step forward in climate action by nations and citizens to include climate education as a subject in the education system at all levels. Following are some key points of his talk:

To reach net zero emissions by 2050, widespread climate education is essential. Recent research shows that if only 16 percent of high school students in high- and middle-income countries were to receive climate change education, we could see nearly 19 gigaton reduction of carbon dioxide by 2050. When education helps students develop a strong personal connection to climate solutions, as well as a sense of empowerment, it can have consequential impact on students' lifestyle and decision-making skills that reduces their overall lifetime carbon footprint.

New evidence also shows that the combination of **'Women Empowerment'** and **'Education'** that includes everyone could result in 85 gigaton reduction of carbon dioxide by 2050. Quality environmental education is essential for assisting young people in coping with climate emergency as well as developing critical thinking skills necessary for decision-making. There is an opportunity to make a more significant influence on how we implement Article 12 of the Paris Agreement. Ministers of education have a significant role, and it is their responsibility to work on environmental education."

"Demand for change comes from educated citizens."



Jobs in the Renewable Energy Sector – Skill Development for Youth

Professor Chetan Singh Solanki, Founder, Energy Swaraj Foundation and Advisor, Earth Day Network India, shared his perspective on the job opportunities in solar sector and existing skill gap. Energy is the solution provider to create jobs, to have positive impact on climate change. Fundamentals that can be adopted to solve climate change and other problems related to SDGs are:

1. Laws of existence: the amount of resources are fixed and hence limit to the use of resources should be set. In the Ecosystem of finite resources, there has to be finite consumption.

2. We don't require mass production; rather, we need production by masses. Decentralization of energy production has the potential to create a lot of jobs."

We need widespread education towards energy literacy and know that our single act is generating and adding carbon to the atmosphere. People have to become sensitive and understand as how much this is causing to climate change. Limited consumption and localized solution can solve multiple problems in the energy sector.

Role Of Youth In The Green Economy

Dr Renard Siew, Youth Ambassador, My Future My Voice EARTHDAY.ORG, Malaysia, emphasized on role of youth in green economy, stating that "Many people are impacted by climate change, such as floods, wildfires, and drought, and thus strong leadership is required to protect future generations. For youth, education is the only tool for making right decisions. They are not only tomorrow's leaders; they are today's leaders, and they are demanding change all around the world. Two crucial components in achieving a 'Net Zero' world is 'systematic perspective' and 'proper roadmap'. Think about how we can provide value to co-create solutions to impact the world we desire with activism."

Ms. Karuna Singh, Country Director for Earth Day, India concluded by saying that, "Women have an important part in the green economy. For example, traditional seeds are still being sold and the benefits of these seeds can go a long way. Every month on the 8th, we honour women's groups who are doing something positive for the environment and profiting from it."

Way Forward

1. To create a shift towards Green Jobs, new generation should be climate literate, upskilled, and innovative to build resilient and green economy. The necessity of green jobs has become even more pronounced with the pandemic and we should rethink the way we manufacture, build, transport, or utilize resources.

2. Young people from vulnerable and marginalized groups stand to lose the most in climate crisis. They should be provided with the opportunities of climate literacy, civic participation, and skill development so that they can champion the cause of their communities and lead the change.

SESSION 5 - EDUCATION FOR PROMOTING SUSTAINABLE TOURISM IN COASTAL AREAS

Associated Organizations

MOBIUS FOUNDATION

FEE

CEE
Centre for Environment Education

Introduction

The session was Moderated by **Ms. Sanskriti Menon, Senior Program Director, Centre for Environment Education and Board Member, Foundation for Environmental Education**.

Coastal regions harbour diverse ecosystems including beaches, sand dunes, rocks and cliffs, mangroves, estuary mouths, low lying paddy fields, backwaters and lagoons. They provide multiple ecosystem benefits including food, fodder, medicine, raw materials, bio-shields, living habitats and tourism. Tourism plays a major role in economic development and generating livelihood for local communities and also provide opportunities for recreation and delivers enhanced understanding of nature and biodiversity.

Unorganised tourism activities, can destroy, degrade and disturb ecological processes and other economic and livelihood activities. Whereas Sustainable coastal tourism can synergize 'Recreation', 'Learning', 'Livelihood' and 'Economy', and enhance conservation efforts.

Objectives

1. To share current practices in sustainable coastal tourism management and approaches associated with educational and capacity building efforts.
2. To explore Ecosystem-based approaches, involvement of local communities in planning and

managing tourism activities.

3. Setting standards and frameworks for sustainable coastal tourism such as the blue flag award.

Panel Discussion

Mr. Johann Durand, Blue Flag International Acting Director, Foundation for Environment Education (FEE), presented his thoughts on "Blue Flag: A global Framework for sustainable Tourism".

Following are the highlights of his presentation.

1. The presentation was synchronized into two parts, the first part mainly emphasized what is Blue Flag, who are the stakeholders, and how they function.

2. The second part of the presentation described the role of education in fostering sustainable tourism among stakeholders and local communities.

3. Blue Flag criteria include standards for quality, safety, environmental education, provision of services and environmental management . The Blue Flag is sought for beaches, marinas, and sustainable boating tourism operators as an indication of their high environmental and quality standards. Certificates, are issued on an annual basis to beaches and marinas of FEE member countries.

4. The Foundation for Environmental Education (FEE) is a non-governmental, non-profit organisation promoting sustainable development through environmental education. FEE is active through five programmes; Blue Flag, Eco-Schools, Young Reporters for the Environment (YRE), Learning about Forests (LEAF) and Green Key International. FEE is an international umbrella organisation with one national member organisation per country and in charge of implementing FEE programmes nationally.

5. The Blue Flag programme was started in France in 1985 and in Europe in 2001. The programme promotes sustainable development in freshwater and marine areas through four main criteria: water quality, environmental management, environmental education and safety. Forty-nine countries currently participate in the program, and over 4,800 beaches, marinas, and boats have been certified.

6. FEE is partnered by some of the world's foremost organisations in the fields of education and the environment. These are the Corporate as well as Institutional partners:
   - Corporate partner- Green care professional, Pick a Peer, Semaphore.
   - Institutional Partner- World Tourism Organisation (UNWTO), United Nations Environment Programme (UNEP), European Environment Agency (EEA), International Council of Marine Industry Associations (ICOMIA), International Lifesaving Federation (ILS), Sail Training International (STI), The Coastal & Marine Union (EUCC), UN Environment, World Cetacean Alliance (WCA), European Network for Accessible Tourism (ENAT), UNESCO.

7. Blue Flag award's procedure-An applicant sends all relevant documents as an expression of interest to pursue the Blue Flag award for a specific beach stretch to the National Operator. National Operator then presents the gap analysis report to the National Blue Flag Jury and the jury further recommends their views to FEE Blue Flag International Jury. and the jury then declares the winners of beach stretch for the blue flag award.

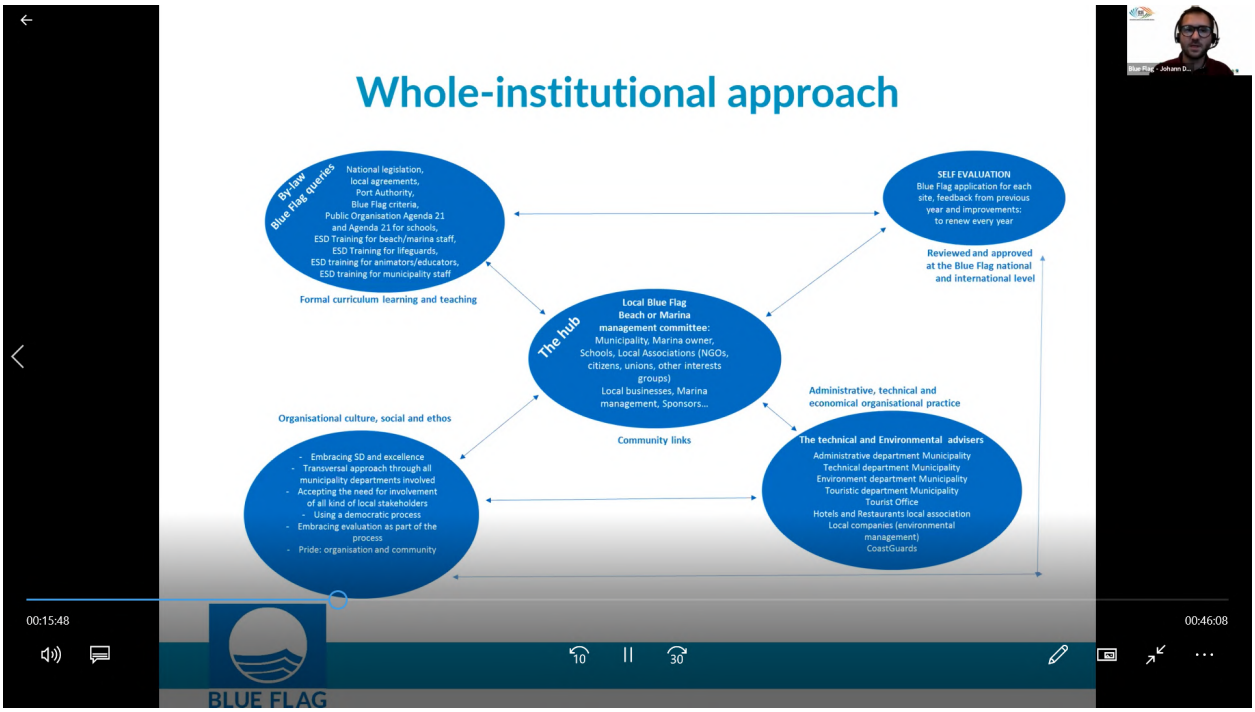
8. The award is subsequently being renewed every season based on compliance with the Blue Flag criteria. The National Operator undertakes control visits to the pilot or awarded beaches. reports are then updated to the National Jury and International Jury for renewal or pursue of Blue Flag Award status.

9. The environmental education activities organised by Blue Flag on its beaches, marinas and boats supports local green activities or initiatives related to education, health, sanitation and infrastructure.

10. The global set of criteria for blue flag award may differ as per site-specifications. National committee sets their criteria according to their local environment and biodiversity.

11. National members worldwide are brought together for capacity development by means of the workshop so that they help local people to get aware of The Blue Flag and initiate them for applying for the award.

12. The Blue Flag programme is characterized by its whole-institutional approach, aiming at raising awareness on sustainable coastal management and on strategies to reduce the environmental footprint worldwide. The promotion of sustainable management at all levels and towards all kinds of stakeholders: schools, businesses, public organizations, tourists, local communities.



Mr Sujeet Kumar Dongre, Programme Coordinator/ National Operator, Blue Flag India, CEE shared his views on "Sustainable coastal tourism Practices, India's experience with Blue Flag":

1. Indian Coastal areas are unique with a range of diversity from estuaries, backwaters, mangroves, beaches and sand dunes. These coastal areas are rich in cultural and historical heritage which makes them popular tourist areas, but also an area that requires careful environmental management.

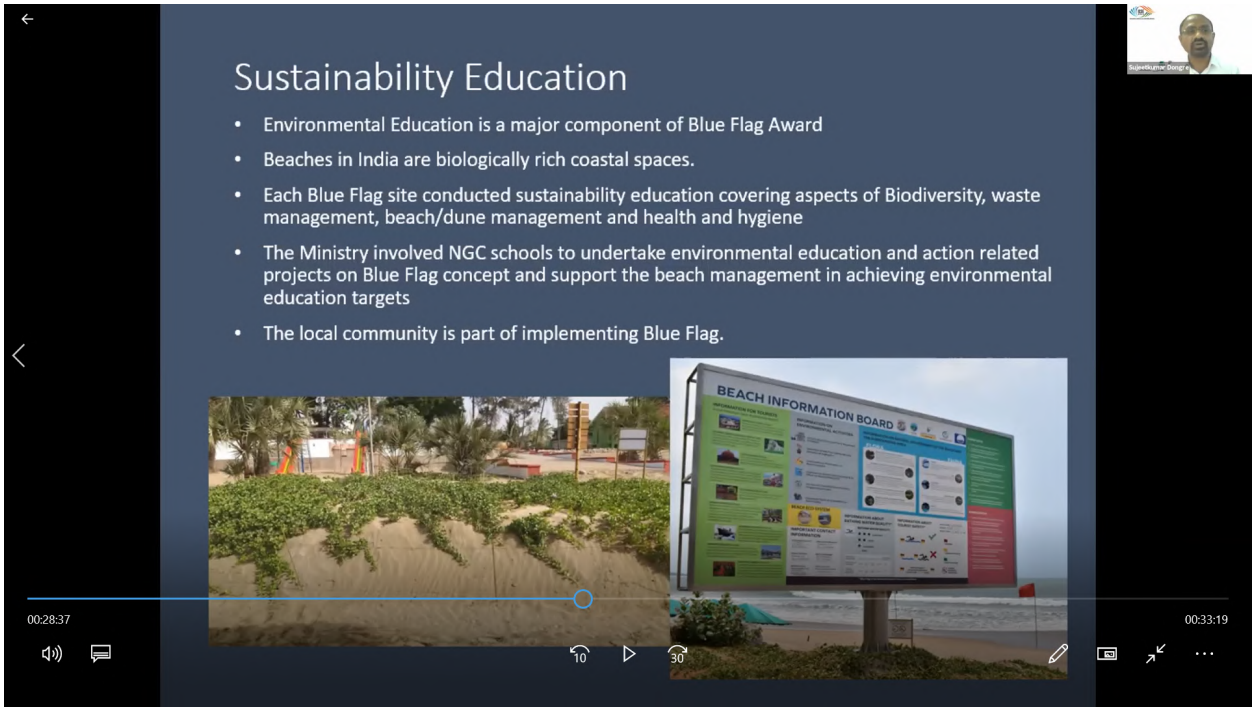
2. The coastal ecosystems are fragile and are increasingly being degraded due to unplanned tourism led to the loss of wild and domestic biodiversity, land conversion, and erosion of traditional knowledge and lifestyle which need to be addressed. The emerging problem requires appropriate solutions which include education and awareness programmes and developing an environmental sensitivity among the local population.

3. The Ministry of Environment, Forest and Climate Change, Govt. of India, identified 13 beaches to be developed to the standard of Blue Flag International.

4. The Ministry is working closely with the state government and local stakeholders in identifying potential beach stretch for Blue Flag Award.

5. The Ministry in consultation with Blue Flag International and the National operator of India organizing various programmes, and workshops involving the government departments, experts and local stakeholders for attaining conservation goals and sustainable coastal tourism.

6. Presently there are 13 pilot sites in which State Nodal Officers with the support of local government and private partners developed beaches in compliance with the 33 Blue Flag criteria. In the year 2020, eight beaches were awarded Blue Flag.



7. Sustainable education is an integral part of the blue flag award. Each Blue Flag site conducted sustainability education covering aspects of Biodiversity, waste management, beach/dune management and health and hygiene.

8. The Ministry of Environment has involved NGC (National Green core) schools to undertake environmental education and action related projects on the Blue Flag concept and support beach management. Local communities are also part of the Education and awareness programmes.

9. Safety and the services- Blue flags have all kinds of standards and people are now feeling the difference between a blue flag and a non-blue flag beach. The blue flag sites are clean and along with all safety measures.

10. Waste management and protection of dunes- Dune vegetation or Ipomoea sp (climber) which is used to bind dunes for reducing beach erosion. Similarly, many other species of plants can be used to flourish healthy vegetation on beaches.

11. Shivrajpur beach of Gujarat is an excellent example of a healthy dune ecosystem, Although, earlier it had been covered by exotic plant species now with the help of local communities, dune gets converted into a greener ecosystem.

Next speaker **Ms Kerry McLean, Project Manager, WESSA, South Africa** shared her experience about "Tourism Green Coast: A Case Study For Education For Sustainable Tourism":

1. WESSA (the Wildlife and Environment Society of South Africa) is one of the oldest NGOs in South Africa and has been involved in conservation and education for sustainable development for over 94 years. WESSA became the National Operator for BF (Blue flag) in 2001. After many years of growth and success of the BF Program in South Africa, WESSA saw a need for a similar Program for a large portion of South Africa 's coastline that is wilder and more rural in nature. Beaches that would not be able to meet BF criteria but are rich in biodiversity, cultural heritage and low impact tourism potential. WESSA Green Coast Program was developed which has a similar structure to BF. The Green Coast Award recognizes and celebrates coastal sites that are sustainably co-managed through partnerships between civil society, businesses and the public sector. In 2015 WESSA partnered the National Department of Tourism (NDT) to initiate the Tourism Blue Flag (TBF) Project and in 2018 the Tourism Green Coast (TGC) Project. Both projects target unemployed youth living in coastal areas, who take on the role of Beach Stewards. South Africa is experiencing a crisis of high youth unemployment rate (46%) and therefore any sustainable development intervention must find ways to uplift the youth. TGC (Tourism green coast) Project: a case study for education for sustainable tourism.

2. The TGC project was piloted on the Wild Coast in the Eastern Cape Province of South Africa at 21 coastal sites. A stretch of coastline with incredible biodiversity, natural beauty, cultural heritage and untapped tourism potential.

3. To achieve long term aim TGC project mainly emphasizes sustainable livelihood development in rural coastal communities while the on-going Green Coast Award Programme accrues long-term benefits to people and the environment.

4. WESSA, through funding from the NDT recruited 120 youth from 21 coastal communities into a 2-year Learnership Program. WESSA also partners with tourism operators with established businesses at the 21 pilot green coast sites. These businesses hosted the Beach Stewards for the duration of the learnership providing experiential work-place learning and skills transference. The WESSA Learnership consists of accredited and non-accredited courses. The Stewards are also trained and supported to work with local schools to become Eco-schools. And they are trained in the Green Coast criteria and support the development of their sites towards Green Coast Award status. This involves choosing a Green Coast theme (Species, habitat, cultural), establishing ecological monitoring baselines, implementing EE activities, community facilitation and coastal clean ups. Sites that have active communities and a grassroots organization willing to drive Green Coast locally, partner with the local municipality and submit their Green Coast application to WESSA.

5. What makes TGC a great case study for Education for sustainable tourism? The education and training component of the model forms the backbone to all other components. During their two years, the GS Steward complete an accredited Tourism guiding qualification, with contact sessions for each module, followed by work-place assignments. They are mentored and supported through their training by industry professionals at their workplaces where they are hosted. The qualification enables them to register with the provincial authority as nature site guides. This formal training is combined with a series of practical workshops that equip the participants with a range of skills and competencies which can be applied in their personal and professional journey.

6. TGC is a scalable model for sustainable development with a strong focus on youth empowerment, education and training, community led conservation and sustainable livelihoods.

Outcomes/ Way Forward

1. ESD professionals can use the opportunity that coastal environments provide for tourism, to enhance understanding of climate change, biodiversity and human survival. Sustainable tourism initiatives can spur learning, conservation action and contribute to local livelihoods.
2. Community-based turtle conservation in Goa that CEE has been involved in and WESSA's Green Coast programme in South Africa are examples. Initiatives like the international Blue Flag award show the benefits of an approach that builds capacity for evidence-based, local governance and management, guided by international good practices.
3. Permeating the learning from these exemplar initiatives further into the coastal tourism sector is an important opportunity for ESD.

September 10, 2021

DAY 2
OPENING PLENARY

OPENING PLENARY

THEME: CLIMATE LITERACY

Dr. Anil Prakash Joshi – Padma Bhushan Awardee, Founder of Himalayan Environmental Studies and Conservation Organization (HESCO)

"Lavish life is an unfortunate part of human life, which is somewhere damaging the earth. Individual accountability needs to be focused."

As the Chief Guest of the plenary, he spoke about the GEP (Gross Environment Products) which is accepted by Uttarakhand Government as a growth measure for the state. He highlighted following points:

Climate education and literacy is a subject of more and more study in order to acclimatize the deteriorating impact of the Environment. Everybody knows what occurring locally, regionally and globally but no one act. In order to save our nature, a collective effort of communities is required.

The recent report of IPCC reveals that after 20 years from now many things will be against humans and everybody knows about changing circumstances but no one takes a collaborative action. If we consider the age of mother nature-4.6 billion years as 46 years, then we (humans) have just been born 4 hours ago and whatever damage we did to mother nature is within 30 minutes.

Nature has its own command and if humans try to take this command then humans spoil themselves. To save the mother earth we must fix accountabilities to individuals because consumers are contributors to climate change. Secondly, state must be accountable because anything which is lost to nature must become under GDP.

In the end, he said the earth history, science and knowledge have to be shared with people so they understand their responsibility towards mother earth.

Ms. Donna Goodman – Founder & ED, Earth Child Institute (ECI)

"To live in harmony with nature, it is necessary for everybody to start working together."

She delivered the key note address, following are the key points from her speech:

IPCC report is most scary even though many of the countries do not take climate change as a serious problem. Climate literacy means knowing the science, understanding the way the planet works and what happened on the planet over a decade.

To live in harmony with nature it is necessary for everybody to start working together. Raising awareness among the children of all around the world must be undergone through fiction or other multimedia sources such as Netflix whereas, the documentary on climate literacy is the best medium to develop climate change understanding. Further, it reaches maximum students in a time.

Dr. Vibha Dhawan – Director General, The Energy and Resources Institute (TERI)

"It is necessary Empowering educators with equipped knowledge, skills, values and attitude to take responsible action for environmental integrity, economic viability and sustainable society."

Below are the key points of her address:

Education for ecosystem restoration includes everything which is occurring around this planet. We have overused the resources in the past few years may be due to ignorance. Moreover, earlier society took the path of consuming more resources rather than conserving them. So, developing skills and telling the young mind about climate change and literacy is an important aspect in the present scenario because they are our coming future.

The 2030 agenda for sustainable development and the role of education for achieving sustainability is facing global issues like biodiversity loss and climate change whereas once the ecosystem gets degraded it does not regain its natural beauty.

It is necessary to Empower educators with equipped knowledge, skills, values and attitude to take responsible action for environmental integrity, economic viability and sustainable society. A sustainable society requires healthy, well-educated skills and active citizens that motivated sustainability and ensured future generations' quality of life.

In the end, she emphasized that the practice of circular economy is already in our tradition and it should bring back in our daily life.

Mr. Rajendra Singh – Water Man of India, Ramon Magsaysay Awardee

"Education should be transformative and allow us to make informed decisions and take individual and collective action to change our societies."

Education for climate literacy empowers learners of all ages with the knowledge, skills, values and attitudes to address the interconnected global challenges we are facing, including climate change, environmental degradation, loss of biodiversity, poverty and inequality.

Learning must prepare students & learners of all ages to find solutions for the challenges of today and the future. Education should be transformative, allow us to make informed decisions and take individual & collective action to change our societies and care for the planet.

September 10, 2021

DAY 2
BREAKAWAY SESSIONS

SESSION 6
CLIMATE CHANGE EDUCATION AND LITERACY

Associated Organizations

MOBIUS FOUNDATION

CEE
Centre for Environment Education

The Climate Reality Project
INDIA

teri

Background

Latest 'IPCC Working Group 1 report is a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable: greenhouse-gas emissions from fossil-fuel burning and deforestation are choking our planet and putting billions of people at immediate risk. Global heating is affecting every region on Earth, with many of the changes becoming irreversible', statement by UN Secretary-General António Guterres.

We need immediate action and a clear path to move towards a zero-carbon future.

Education is an essential element of the global response to climate change. It helps people understand and address the impact of global warming, increases "climate literacy" among young people, encourages changes in their attitudes and behaviour, and helps them adapt to climate change related trends, and help in making communities climate resilient.

Climate Education should reach every educator, students and be part of all educational institutes. To make this happen, we are reaching out to educational institutes, schools, colleges, senior educators, young minds, principals to empower them on climate action and strengthening the need for Climate Education.

Objectives

The session discussed approaches to climate change education and literacy that are being tried out by different institutions, good practices for educational institutes on climate action and converting their campuses into sustainable ones, how to follow low-carbon trajectory.
The panellists also shared their learnings and experience.

Mr Aditya Pundir, Director – India and South Asia, The Climate Reality Project India

He set the tone of the session and shared presentation on why climate change education is becoming more important considering current times. Following are the highlights from his talk:

1. As per Paris agreement the climate challenge is to keep earth temperature rise below 1.5 degree Celsius by end of the century. Therefore by 2050, we have to achieve net zero to stop the climate change.
2. 3 roles will play a key role in coming times – Innovation, technology and behaviour change. All the three things are born in the universities, institutions, schools where young minds are there.
3. Educators can help in climate literacy through science, impacts, solutions and disaster adaptation. Every educator has a circle of influence and concern which can be used for community mobilization.
4. South Asia region is not homogeneous and there are regional languages. There is a need for Climate Literacy to happen in the languages of people.
5. Climate Education is a continuous and dynamic process. Climate Literacy should have both the elements – understanding of the problems and how they can be used.
6. Make the youth aware about the potential which they have and opportunities in the Green fields.

Panel Discussion

1. What are the various approaches CEE has adopted for climate change education?

Srishti Singh, Programme Coordinator-Climate Change, Centre for Environment Education:

- In line with article 6 of UNFCCC- Action for Climate empowerment (ACE)
- Network of over 2 lakh schools and universities
- Developed courses on climate change to provide conceptual clarity
- Public awareness and participation

Neha, Fellow and Area Convener, Environment Education and Awareness, TERI:

- Interlinking of different projects - interdisciplinary
- Building capacity through hands on programs
- Long-term change in the society
- Several projects across India to build capacity and empower into action specifically needed for that region

Rekha Lalla, Program Manager, The Climate Project Foundation:

- Teachers training in many languages
- Youth training- teaches the school community and in that way their parents about climate change knowledge.
- Green campus Program – audit-based program
- Summer camp for students- artistic expression towards climate change

2. We understand on ground implementation of green measures have been difficult to achieve during the COVID time, how have organizations been able to achieve this challenge? (Institutional perspective for Principal)

Neelinderjeet Kaur Sandhu (Principal- SD Vidya School):

- Technology, innovation and behavioural change. Innovation was crucial.
- Children made their home plastic free and practiced the 3Rs reuse, recycle and refuse.
- Made environmentally friendly bags- great solution to plastic ban.
- Made rooftop gardens at home and sold to their parents- income generation for children and meaningful engagement- grew cotton.
- Installed solar charkas from this cotton, children create their own uniforms
- Entrepreneurial challenges

3. What were the challenges faced as an educator in the post-covid times and also by the teachers or students at the receiving end?

Neha, Fellow and Area Convener, Environment Education and Awareness, TERI:

- Opportunity for developing digital capacity
- Education turned digital
- Maximum reach digitally
- Knowledge sharing
- More opportunities to be creative

Rekha Lalla, Program Manager, The Climate Project Foundation:

- Summer program with students for story writing
- Youth program

Srishti Singh, Programme Coordinator-Climate Change, Centre for Environment Education:

- Campaign on single-use plastics
- Advantage was being able to reach out to a large number of people through a single event
- Disadvantage was that many schools did not have access to digital education and they missed out on this
- Language barrier due to e-platform

Subject to Climate – Platform for Climate Education Resources

(www.subjecttoclimate.org)

Rituraj Phukan, Representative, Subject to Climate Initiative

- The platform Subject to Climate was developed during pandemic for connecting teachers to free climate change resources. This is a website which has all the resources that is possibly required for integrating climate change education with all the subjects required which are taught in various schools.

- The reason of climate change not being taught in the classroom are low teacher confidence, lack of time, Inflexible curriculum, controversial subject, and inaccessible resources.

- The mission is to increase knowledge, shift attitudes, and change behaviours so that kids, families and communities become involved with addressing climate change.

- Benefits of this platform are – Free of cost, credible sources and verified by scientists, east to navigate and saves time.

SESSION 7
EDUCATION FOR ADVANCING CIRCULAR ECONOMY

Associated Organizations

Introduction

"Circular Economy provides opportunities to create well-being, growth and jobs while reducing environmental pressures. The concept can, in principle, be applied to all kinds of natural resources, including biotic and abiotic materials, water and land." (*source: EPA*)

Keeping in mind the umbrella theme of ICSE 2021 i.e. Ecosystem Restoration and Climate Literacy, the theme of Advancing Circular Economy was chosen to address the major component which addresses the need of responsibly utilising the earth resources.

Supported and organised by Mobius Foundation this session captured the quality deliberations of the distinguished speakers Mr. Prabhjot Sodhi from Centre for Environment Education (CEE)-Ahmedabad, Dr Pramod Sharma from Foundation of Environment Education (FEE)-Copenhagen, Dr Shalini Sharma from Institute of Circular Economy and Sustainable Development Goals (ICE & SDGs)- Hyderabad and Ms Anjali Schiavina from Fair Trade India.

This session covered the focussed deliberations ranging from the government policies, Circular economy in school education, Circular Economy in Higher Education, Career opportunities in the areas of Circular Economy, Upstream approach to the practical display of circular practice through example of textile industries.

Objectives

1. Deliberate on the Basics of Circular Economy and its potential to revitalise planet, people and profit.

2. Illustrate the approach towards Education for Advancing Circular Economy in Schools.

3. Reflect on the Emerging Career opportunities in Circular Economy.

4. Showcase the real field examples.

Session Moderator and Leader - Mr Prabhjot Sodhi- CEE

Summary of the Presentations & Discussions

Mr Prabhjot Sodhi, Country Program Manager, Centre for Environment Education extended a warm welcome to all the participants, panellists and expert speaker for joining the session.

> **"Something which excites me, if I have to buy a recycled product then I would like to see the label... indicating the percentage of recycled materials in it."**

Discussion Round 1

He set the tone with his experiential deliberations and posed some insightful questions for participants to develop a platform of discussion and said that "Something which I want to lay question and leave it to audience before we begin is something that - what is exciting in circular economy?".

How is circular economy creating a trillion-dollar economy?
How is it adding incomes?
How is it really creating better material-flow efficiency and sustainable products?

Mr Sodhi invited distinguished speakers to share their thoughts.
Key points of deliberations are given below.

Dr Pramod Sharma, Senior Director, FEE

- There are different ways of using learning among children to advance circular economy, in that process knowledge, competency, disposition, behaviors and actions are the important components which needs to be looked at.
- Refusal of a product by a consumer on the basis of it not being produced by adapting

circular practices is the most effective strategy that can have larger impacts.

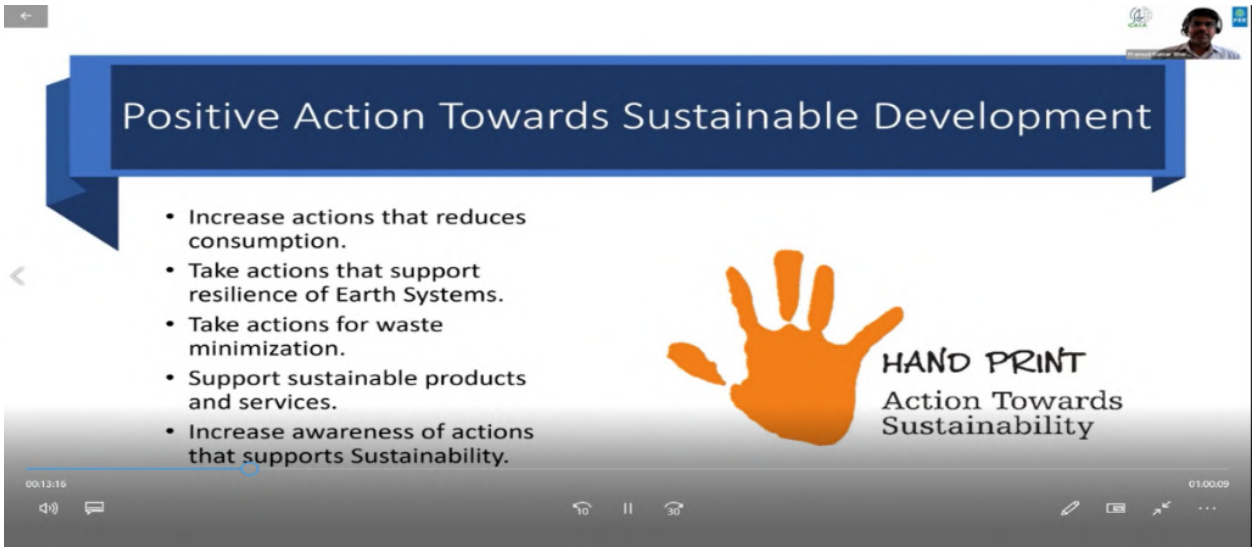
- 80% of how a thing will be used and what part of it will be thrown out gets decided at the design stage, hence this aspect of a product life journey need to be captured efficiently and students are required to be skilled to develop future designers with an eye of developing products and services which carry the circularity element with it.

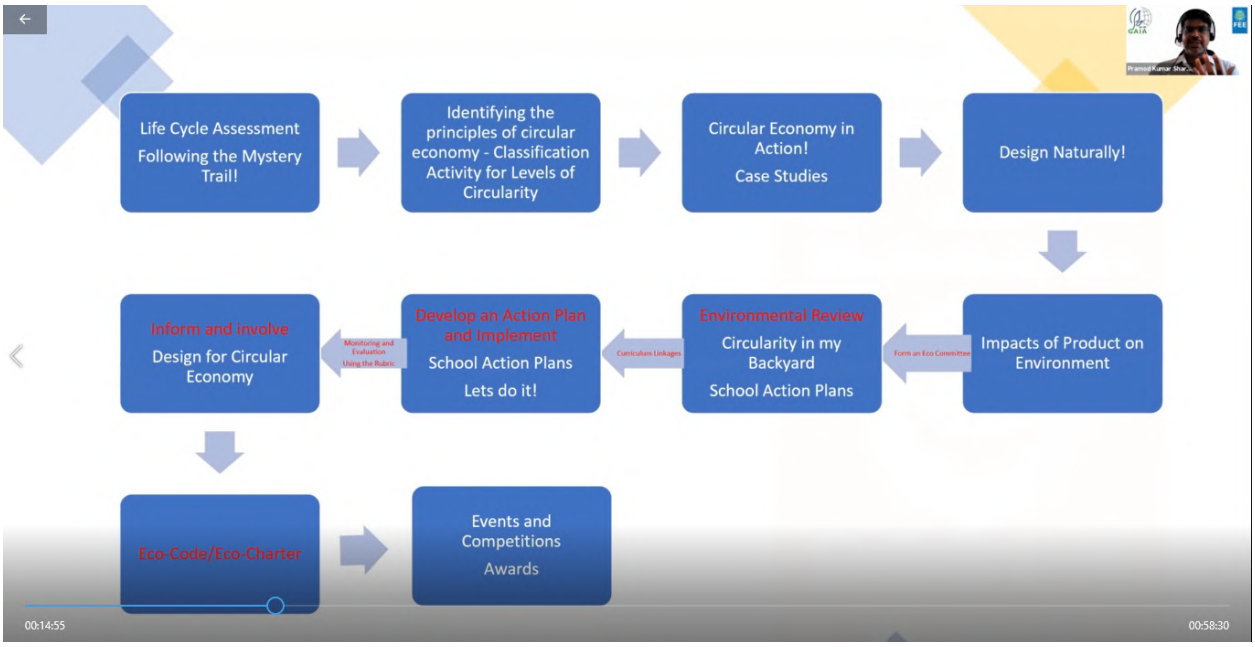
"Audit of the product and services to define problem is the important step towards circular economy... DESIGN A PRODUCT OR SERVICE THAT LASTS"

Schools can be assessed on the following factors regarding their compliance with Circular Economy:

- Education - Students require the knowledge to freely follow the circularity modality while utilising the things as consumers.

- Environment Impact on Resources while handling with food, water, greening, waste management, paper, transport and computer peripherals.





Dr Shalini Sharma, Founder, ICE & SDGs

> **"For Educational institutes I must say that the management of the institutes/colleges /universities have a very important role to play in implementation of circular economy at their educational setups by taking proactive decisions."**

Three approaches of introducing Circular Economy in Curriculum:

Approach 1 - Introductory Course
Introductory courses are the excellent way to garner interest in the subject while also discovering prospecting leaders in the area of circular economy.

Example: As long back in 1960s Utrecht University in the Netherlands has implanted an introductory course into circular economy and is a problem-based learning program to ensure maximum engagement from students.

Approach 2 - Additional Course
Second approach is to start Circular Economy as additional course into the educational institutes and the universities.

Example: Sanghai Jiaotong University has a programme called “The Zhiyuvan Programme” which brings together students from all other disciplines to learn and discuss about circular economy.

Approach 3 - Workshops

Workshops are an excellent way to give students real life experience and allow for interactions with experts in the field.

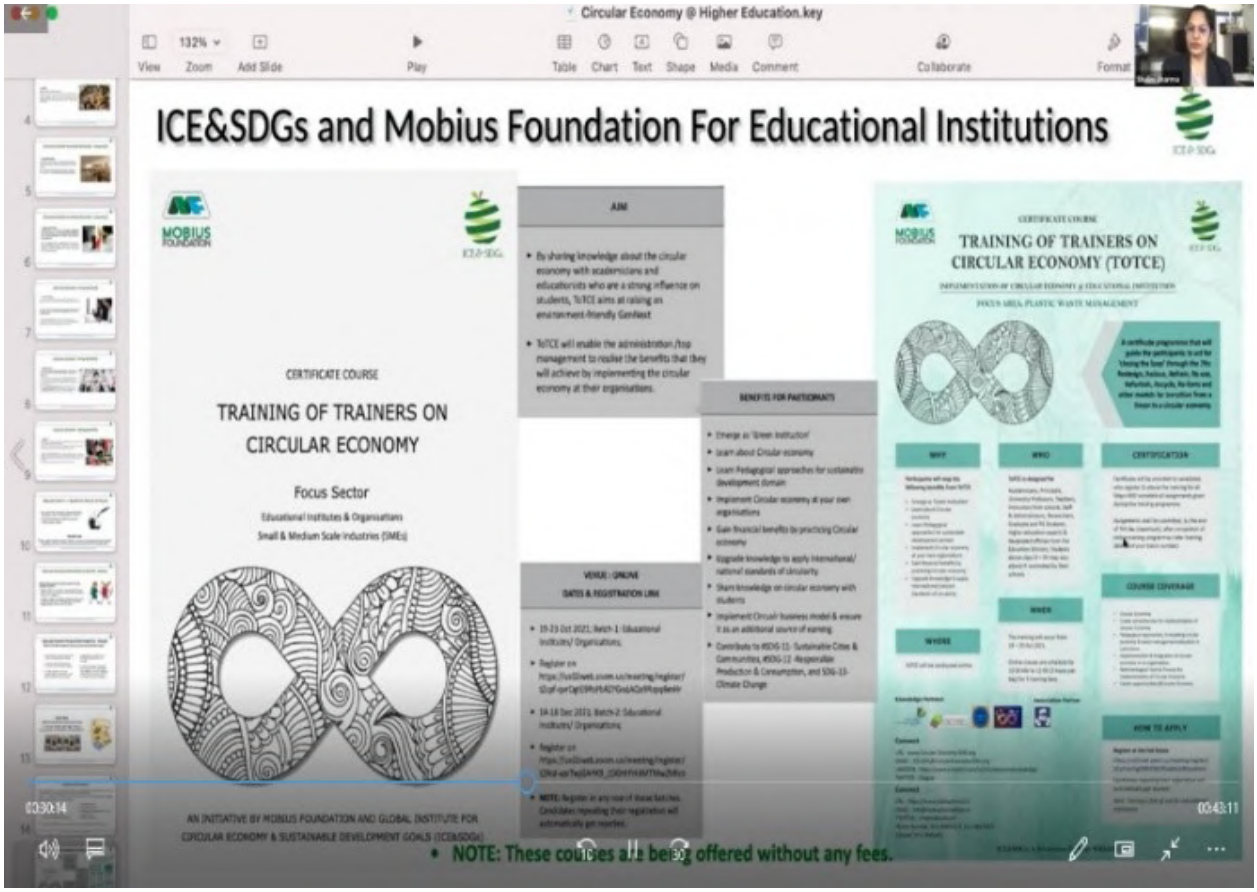
Example: Columbia University has a 5-day workshop that gives students a platform to go around two major cities (New York and London) where they interact with businesses and people who are engaged in implementing circular economy. The interactions take place through interviews and on-site visits.

Some of the carrier opportunities in circular economy domain are seen in the slide below.

Training of Trainers

Mobius foundation is supporting ICSE and SDGs in conducting training programme on Circular Economy for Educational Institutes and SMEs. The main focus will be on the plastic industry.

(Screengrab from her presentation on next page)



Ms Anjali Schiavina, National Coordinator, Fair Trade Town India Project

"For centuries our economies were circular... With the onset of industrial revolution, the whole concept became take, make and dispose and there was huge consumption started to happen. There was disconnect with the nature and also the whole design model which started encouraging limited life-span with replacement as an only solution.
This increases waste into the landfills".

The past practices of utilising the waste to make new products needs to be bring back in the main stream of practice, among the students, among the citizens.
There has to be a joint effort in bringing all the stakeholders together from researchers, entrepreneurs, civil societies, law makers, citizens, the youth, the students who are tomorrow's innovators.

DISCUSSION ROUND 2

Mr. Prabhjot Sodhi - "Today in India we are getting into material consumption of nearly 9 billion metric tons per annum of all materials in India and by 2030 we will reach up to 15 billion metric tons. Therefore, we really need to educate one and all for advancing the Circular Economy".

He suggested some of the very focussed approaches which are necessary to implement circular economy, which in combination can be read as RESOLVE approach:

REGENERATE	shift to renewables and reuse materials; reclaim, retain & restore from products. Ex. electricals, batteries, tyres, refill bottles.
SHARED	promoting new concepts like OYO, UBER, OLA, used car portals.
OPTIMISE	
LOOP	remanufactured products and components exctrated from original, as by-products, using various biochemical, compost & related bio-extracts.
VIRTUALISE	online shopping, food orders, e-books, e-music, e-education sites.
EXCHANGE	replace old with new. Encourage such approaches, platforms and technologies so that products go into recycling and refurbishing.

Taking the discussion to next phase Mr Sodhi posed a common but a very interconnecting question to all the three speakers: **What are the three points to which community at large should try to apply in terms of education related to circular economy?**

All the three speakers answered this with thought provoking points, as seen below.

Dr Pramod Sharma

- Among the privileged, it's a normal tendency to look downstream and trying to find the solution downstream and not upstream, but when we look at circular economy that the change or shift we need to have.

- It's not about reusing or recycling but seeing that the things are being produced in such a way that it has a life and it can be shared and it can be reused.

- From education perspective the biggest challenge is the life cycle assessment, and that's the challenge that people are not able to assess because all the information is not available and the teachers are not confident to clear doubts in the classrooms.

- Biggest part is design - we did a design challenge and learnt a lot in that process, children are creative but dominant narrative is still of reusing, recycling where many creative materials are being produced. Going back and rethinking in a new way is something to be taken care of. I think this skill is missing in our education system.

"Instead of confusing with many jargons we need to simplify the communication by saying cut down the waste to zero where we need not to look at some fix formulation but have to simply engage the thought process of students to design the things in a manner where waste turns out to be zero in the complete life cycle assessment of that particular product".

Dr Shalini Sharma

- Segregation procedures in India need more streamlining.
- Society needs to start somewhere because without proper shorting of plastic wastes we could not see efficient recycling results.
- Rural and Urban areas both needs to look into the implementation of proper segregation mechanism.
- Vision of smart cities cannot be realised without adhering to the waste disposal standards.

"Some types of mandate are really required that how to compensate that what really you are taking off from the nature otherwise the day is not very far where the earth is going to be hollow, the water is going to be very dirty".

Ms Anjali Schiavina

"It's a myth that circular economy is very expensive and its difficult and hard to do. I feel that more awareness has to be created, more discussions, conversations and dialogues has to be done and more case studies have to be shown".

- The value of the product has a trail of lots of damage to the environment. This chain needs to be looked at in order to implement a circular economy.
- The very element of circularity existing in joint families need to be introduced in the mindset of nucleus families through education.
- Concept of Circular economy need to be inducted in the school curriculum because students are the one who are tomorrows consumers and tomorrow's entrepreneurs as well.

When we connect the student to the farmer and he gets to meet him face to face, or when we connect the students to the factories the learning and experience gain from there is something which they will never forget.

Key Takeaways

1. Awareness, efficient and effective use of (plastics) materials, creating value in waste and taking pledge to reuse, refill, recover, regenerate, repairability, and recycle plastics among consumers is the key to foster circular economy.

2. Use and see waste as resource or a bye-product of the very product in use.

3. An approach towards assessing the life cycle of a product and rethinking the design pattern of it to cut waste to zero is most important approach in terms of circular economy.

4. Circular Economy is not any sophisticated term or technology, neither it's something very expensive. Our simple steps and education on the processes enhancing our creative productivity, encouraging the material use efficiency in all systems approaches of this area will break the myth.

5. Many dignified career options can be opted in the domain of circular economy, provided you need to be sensitive in meeting the needs of the present without compromising the needs of the future generations.

6. Start early – educate all and the youth to be sensitive on the usefulness of the materials consumption and productions systems approaches - to live green.

7. An eye for a zero waste from a product packaging and while designing it in a most simplified approach towards advancement of circular economy.

8. Educating youth and the young about circular economy follows the patch of positive actions and changing the pattern of visualizing things from product point of view to design point. Ensuring NO to littering habits.

9. Strengthening the collection, segregation mechanisms, optimize the transportation systems for waste management, and ensuring the CE principles of reuse, refill, recover and then efficient recycling in the plastics ecosystem.

SESSION 8 - MISSION SUSTAINABILITY: EDUCATION & AWARENESS FOR POPULATION STABILIZATION

Associated Organizations

MOBIUS FOUNDATION | POPULATION FOUNDATION OF INDIA | EarthOvershoot

Introduction

The world population has surpassed the 7 billion mark and is projected to grow to over 9 billion by 2043.
The challenge of the century is to solve the problem of meeting the increasing needs and expectations of a growing population while at the same time modifying the current production and consumption patterns to achieve a more sustainable development model and address the links between development and rapid population change.
Human population growth and overconsumption are at the root of our most pressing environmental problems, including the wildlife extinction crisis, habitat loss and climate change.
The campaign, **Mission Sustainability – Population vs Planet** —focuses on how over population is responsible for exerting pressure in these areas or developing these issues are Climate Change, Bio Diversity and Natural Resources, Energy Crisis, Air Pollution, Jobs and Housing, Water Pollution, Depletion of Non-Renewable Resources, Education and Empowerment, Waste Generation, Education, over consumption patterns etc.

Education: The more years a human being spends in formal education, the smaller the family size. If women are able to delay childbirth and have fewer children, they will get empowered to pursue educational opportunities, employment, entrepreneurship and many other opportunities. This will also help them take care of their physical and mental wellbeing

Objectives

The objective of the session "MISSION SUSTAINABILITY -Education and awareness for population stabilization" was to share experiences, case studies on the role of education, empowerment, and awareness in population stabilisation and sustainability of the planet.

Background

The session began with the launch video of "Mission sustainability – Population vs Planet" campaign done in collaboration between Mobius Foundation and WION, followed by Earth Overshoot's "8 Billion Angels" film. The campaign video of Mission sustainability – Population vs Planet focus was on impact of overpopulation on Climate Change, Bio Diversity and Natural

Resources, Energy Crisis, Air Pollution, Jobs and Housing, Water Pollution, Depletion of Non-Renewable Resources, Education and Empowerment, Waste Generation, Education, Over Consumption patterns etc. The 8 Billion Angels film represents the first phase of Earth Overshoot's multi-tiered approach to raising awareness and normalizing the discussion about the catastrophic impact our unsustainable population growth and consumption are having on our planet and the steps we can take collectively and individually to solve the problem.

Panel Discussion

Dr. Ram Boojh, CEO, Mobius Foundation, moderated the session and emphasized on the role of education as the foundation for sustainability and population stabilization.

Panellists of the session included, Mr. Terry Spahr, Founder, Earth Overshoot, Dr. K. S. James, Director & Sr. Professor, International Institute for Population Sciences, Mumbai, and Dr. Sanghamitra Singh, Senior Manager, Knowledge Management and Partnerships, Population Foundation of India (PFI).

Initiating the discussion, Dr. Boojh asked **Mr. Terry Spahr** to speak about the global perspective of state of affairs with regard on population stabilisation policies, practices and bottlenecks. Mr. Terry Spahr responded that **"Overpopulation, like climate change, is a worldwide issue, and getting all of the countries to work together to tackle it is extremely difficult.** It is evident that everyone should be educated and aware of the situation, but each country must accept the fact that if there aren't enough people bringing this up to the leadership, they will not be able to say, "We really need to handle this issue." So, it's up to you and me, and everyone else in our own countries, to focus on this issue and persuade their leaders to make it a priority."

To know the national perspective, Dr. Boojh asked the same question to the panellist, **Dr. K. S. James**, Director & Sr. Professor, International Institute for Population Sciences, Mumbai, whose statement is reproduced below: **"Whether it is in a global perspective or Indian perspective, I think in the last 10 or 20 years, there has been very substantial changes in the population front. India has already achieved a replacement level fertility close to two, which means that our population will stabilize in next decades."**

Taking forward on same issue, **Dr. Sanghamitra Singh** of the Population Foundation of India (PFI), who worked on the UP-Population Policy (2021-30) in the state of Uttar Pradesh. "Our first priority should be on investing in our large population, particularly those of reproductive age. Because even if they have one or two children, the population will continue to grow, the interstate and interregional variations in the country are the most essential component that needs to be addressed. **The best contraceptive and the best method to truly serve the people is to invest in health and development. Our greatest strategy moving forward is to invest in our current demographic advantage and ensure that our young people are equipped to contribute to the country's development and to contribute productively to the country's workforce."**

Dr. Boojh said "Education is the most effective contraceptive, and the Sustainable Development Goals are regarded as a magic wand, with **SDG 4 being the key to all development, sustainability and population stabilisation**." He further asked the panellists how they can define the Role of education as emphasized in SDG 4.

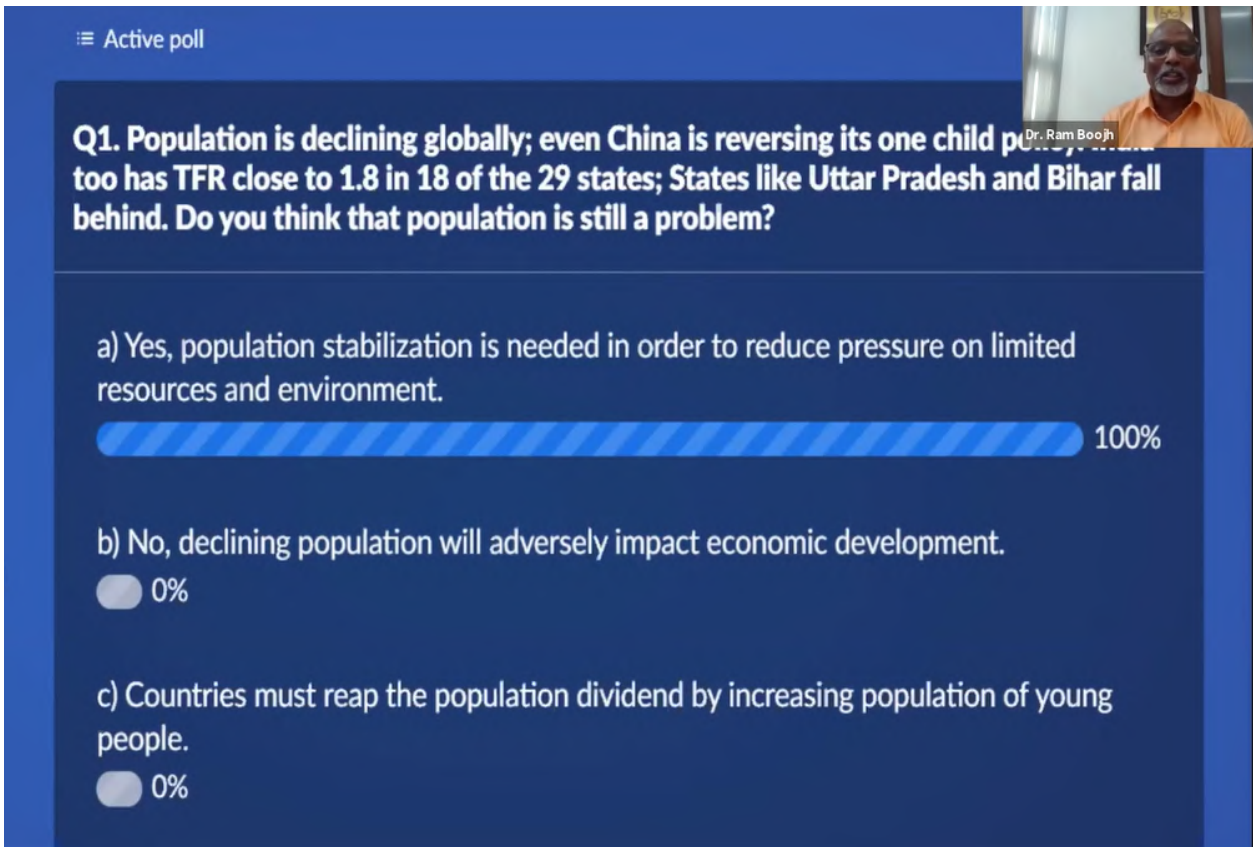
Dr. K S James spoke about the significance of education in India, saying that **"Fertility transition has been mainly female education induced**. Female empowerment has been the crux of fertility transition in the States like Kerala. But as we move further, we really don't see that close link between female education and fertility transition. Perhaps the success story in India is the efficiency in the service delivery in many States which have led to a transition. Female education, which is supposed to be one of the best ways to achieve it, **but other ways to achieve a population stabilization strategy beyond female education such as provision of healthcare services.** Female education becomes a critical variable for many other things. So, it only means that there are different roads to achieve a goal, perhaps beyond a female education strategy."

Dr. Sanghamitra Singh gave her views on the link between education and socio-culture, "There is no denying that education is a critical factor in lowering reproduction rates in any country. However, in India, I believe that social norms play a significant role in determining how many children a woman has. **So, a woman can be educated, but the decision of how many children she will have and when she will have them is not always hers**. So, while education is critical, **there is a bigger need to change regressive social practices that deny women their reproductive authority."**

Mr. Terry Spahr, talked about the impacts of population on the environment, that " The western world needs to be educated about having one or no child as the most profound action one can take to address climate change. **Small families must become the symbol of parents who truly care about the climate, the environment, and the well-being of future generations** in order to heal the environment. And those social norms can be changed quite rapidly. And when their intentional groups like the Mobius Foundation and what we're doing

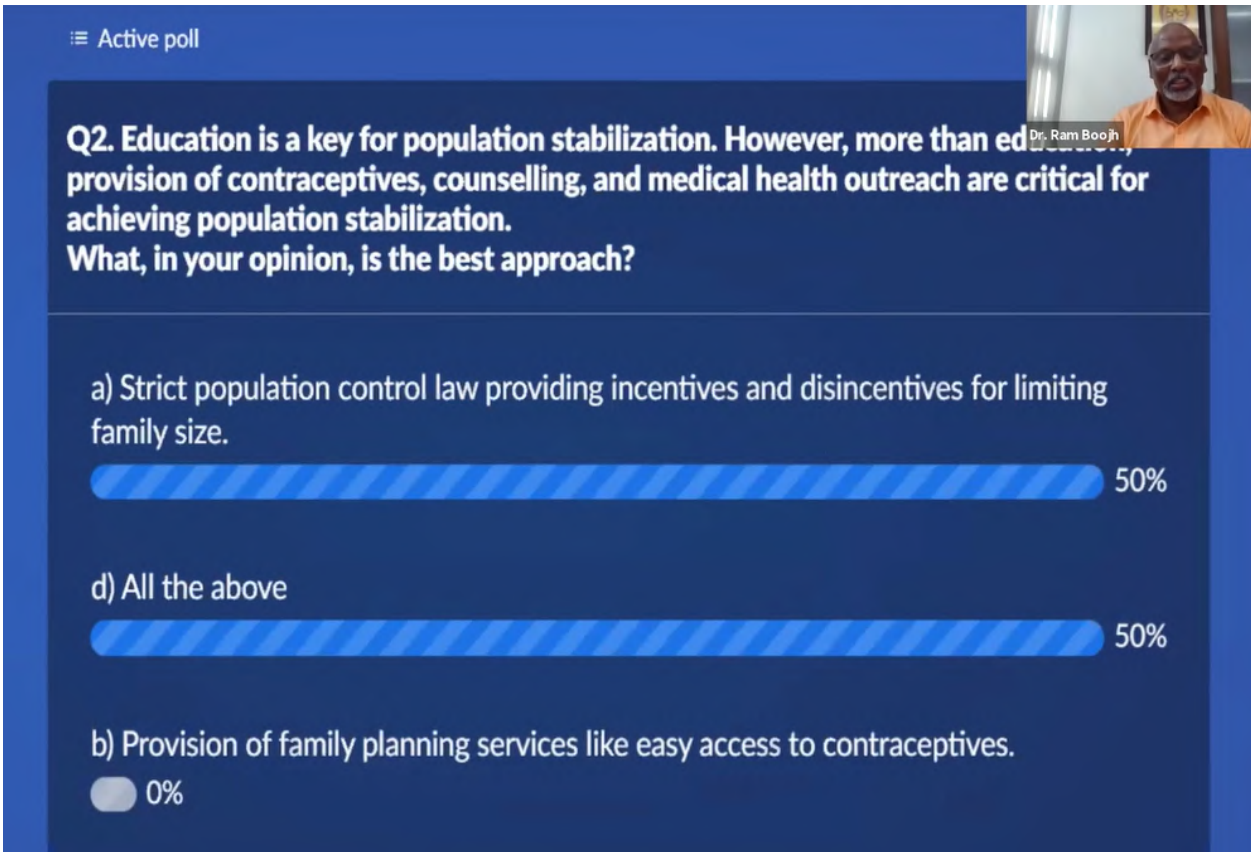
at Earth overshoot executing one strategic campaign, we've seen it happen in many countries, certainly empowering and enabling women to get an education gain reproductive authority is step number one. However, when the fertility rate falls below replacement, there must be a connection created with the environment, which is crucial. It's critical for our children's future and long-term sustainability."

Polling Questions



The session also featured polling questions to engage the audience and learn about the general perception about population stabilisation. The response overwhelmingly **(100%) demonstrated that Population stability is essential to minimise strain on limited resources and the environment, and population is still an important issue.** *(refer to the image above)*

In our second poll question **50% audience was for population control law providing incentives and disincentives for limiting family size** to be the best approach for achieving population stabilization whereas another **50% answered that apart from the strict law** providing incentives and disincentives for limiting family size; **provision of family planning services like easy access to contraceptives, education and empowerment of girl child and inclusion of male in family planning** are the best approach for achieving population stabilization. *(refer to the following image)*



Mr. Pradip Burman, Chairperson, Mobius Foundation in his concluding remarks emphasized on the main reasons responsible for increasing population "As far as population multiplied by our consumption and by our lifestyle is really the issue in today's world. The population has increased five times in 100 years of the whole history of mankind since 1900. In 100 years, we have five times the population and that is essentially the problem. **Population multiplied by the consumption pattern is causing damage to the environment** and will lead us to the end and action needs to be taken. If the reason why the planet is deteriorating is linked essentially with the population, I think more people will understand whatever action you take to limit the population."

He added we should consider various scenarios, as each country faces unique challenges, and as far as population is concerned, the developed countries, such as the United States, and particularly the northernmost countries, such as Sweden, Finland, are experiencing population declines. As a result, India has a well-defined set of issues, which are similar to Bangladesh's and China's. "**Someone should research what the appropriate population for the world should be, in order for the earth and its people to survive".**

This has to do with our current way of life and the changes we'll have to make, to support a larger population. The distribution of contraceptives is the most essential factor we discovered in rural areas, where women wish to stabilise their population but lack the contraception to do so. The distribution of contraceptives in that particular area is critical. As a result, each region will need to develop its own methods for population control, which must be voluntary. One of the issues that arises every time we ask ourselves this question is the relationship between development and the environment.
And there is no question at all that we should propagate that environment comes first.

Otherwise, development goes all to zero because the planet cannot survive. **We are looking at development and GDP, but we aren't looking at the extra damage that each percentage point of GDP increases causes to the environment.** So, whatever new project that we undertake, or any growth in GDP, how much damage does it cause to the environment? Governments, in my opinion, must play a far larger role, which can only be achieved by public pressure.

And that is why I cited the significance of the XR movement in what is happening in the UK, which is a mass movement that will actually force government to have a part in looking at environmental degradation. the population itself, because it takes around 100 years to attain our ultimate goal, no matter what we do."

Way Forward

The way forward of this session was expressed by each panellist varying from international to national to regional ways, we need to influence decisions when it comes to education and family planning. We can do this by marching forces together as a global society to confront this head-on and to have an honest conversation, and take the stigma away from it.

Incentives and disincentives should be adopted on a voluntary basis. Education currently has to be emphasized to bring quality elements in the population in terms of health care, service delivery, and achieving the balanced sex ratio.

People Before Numbers – we have to invest in people, we have to take measures to work for their benefits (Gender equality). Before implementing cohesive policy, social norms should be addressed and also investment in family planning should be increased for both males and females.

SESSION 9 - ECOSYSTEM SERVICES, BIODIVERSITY AND FOREST ECOSYSTEM

Associated Organizations

MOBIUS FOUNDATION

United Nations Educational, Scientific and Cultural Organization

UN environment programme

Introduction

Nature plays a critical role in providing food and feed, energy, medicines and genetic resources and a variety of materials fundamental for people's physical well-being and for maintaining culture. Biological diversity underpins ecosystem functioning and the provision of ecosystem services essential for human well-being. Biodiversity is being lost throughout the world and this has negative consequences for the delivery of these ecosystem services and human wellbeing.

To halt or reverse this decline it is vital to transform people's roles, actions and relationships with biodiversity. This transformation has already begun with the commitment of the international community to the 17 Sustainable Development Goals (SDGs) of Agenda 2030. It recognizes that human behaviour, values and choices shape people's interactions with biodiversity, all of which have a direct impact on our collective future on the planet.

UNESCO works on the conservation of biodiversity and the sustainable use of its components through UNESCO designated sites, including biosphere reserves, World Heritage sites and UNESCO Global Geoparks. In 2018, UNESCO designated sites protected over 10 million km2, an area equivalent to the size of China. These conservation instruments have adopted policies and strategies that aim to conserve these sites, while supporting the broader objectives of sustainable development.

Objectives

- To discuss the positive and inspiring seeds of change around the world for conserving biodiversity and ecosystem services.
- To share their efforts to halt biodiversity loss by understanding, appreciating, safeguarding and using biodiversity sustainably.

Summary of the Presentations & Discussions

Ms. Neha Midha, Programme Officer for Natural Science, UNESCO New Delhi extended a warm welcome to all the participants, panellists and expert speaker for joining the session. She shared the purpose of the session and how the session is planned.

Mr. Benno Böer, Programme Specialist for Natural Science, UNESCO New Delhi presented his thoughts on Best practices for carbon mitigation in shallow coastal ecosystem. Following points were highlighted in the session:

1. Shallow carbon ecosystem comprises **Blue carbon ecosystem** and this term is used from roughly last 10 years but there is no comprehensive definition given anywhere for this.

2. "Blue" stands for oceans, carbon stands for Carbon sequestration and Ecosystem stands for the interaction between living and non-living components.

3. He talked about the best practices to sequestrate and quantify the carbon mitigation potentials of shallow coastal ecosystems: Sea grass beds, mangroves, salt marshes

4. Conserve Blue carbon Ecosystems via the UNESCO world network of biosphere reserves and UNESCO has 714 biosphere reserves.

5. Support blue carbon ex situ development projects (World Halophyte garden; test new ideas for example via a prototype of floating mangroves, analyse blue carbon man made ecosystems)

6. Climate change and biodiversity loss are real and present global crisis. Let us do much more to mitigate and redress these crises in the UN decade of Ecosystem Restoration 2021 – 2030 via World Network of Biosphere Reserves.

7. Considering greenhouse gases still being released now and in the future: Carbon ecosystems should be conserved as a priority and scientifically restored, offset options should be scientifically analysed and tested.

8. They have launched a series of book "Blue Carbon Ecosystems for Sustainable

Development" along with springer publication house in the Netherlands which describe the definition of blue carbon ecosystem.

Ms. Gayatri Raghwa, Environment Education Consultant - UNEP India presented her thoughts on the necessity to develop the capacity of young people to become environmental management professionals.

1. The question we should ask ourselves "Why do we need to capacity build our young people to environmental managers?"

2. We are at the cross roads of our civilization and we are facing the triple planetary crisis: Climate crisis, Loss of biodiversity, Pollution and these three are interrelated.

3. Almost 140 billion tonnes of resources we extract globally for our consumption. By 2030, 2 to 3 billion additional middle-class consumers will be added and if we continue doing all the economic activity with the same pace, we are expecting rise in temperature of 3 degree Celsius which essentially means the planet will not be suitable for us humans to survive.

4. UN Secretary General Antonio Guterres beautifully commented in his state of planet address "Today the state of the planet is broken. Humanity is waging war in nature. Nature always strikes back – and it is already doing so with growing force and fury."

5. COVID showed us the whole interconnectedness of things and revealed to all as how environment, society and economy are intrinsically connected and how these connections affect the wellbeing of our society and our planet.

6. We all want change but people are not so ready as to who wants to change in reality. That is where youth, young people come into picture and they are the real change makers.

7. We have to build the capacity of young people; align our youth to the path of sustainability should start young from early age and continue till adulthood. Extend from home to educational establishments to the society, to the nation and to the earth. Whole institutional approach, whether at schools or higher education.

8. There is a missing link between our educational establishments and our efforts towards environment education is Systems Thinking. We all need to equip our students whether at schools or college and to whole approach towards systems thinking.

9. Environment Education should be weaved and integrated into all the aspects of school functioning – Move away with piecemeal approach to administering EE initiatives at school and adopt a holistic approach.

10. There has been an increase in sustainability related initiatives and programs with higher educational establishments.

11. Globally response of universities to environmental and sustainability challenges centres around 3 phases; Environmental Engineering/ Science/ studies (started from 1970 onwards), Environmental Management Systems/ greening the ivory tower (1990 onwards), Whole institution approaches/ sustainability Science (2010 onwards).

12. 37.4 million Indian youth enrolled in higher education programs and higher education initiatives in India can be broadly grouped under; Government led efforts such as introducing mandatory curriculum on environmental studies, programmes implemented by NGOs and Foundations, Eco club youth advocacy initiatives, connecting through the curriculum, individual and independent efforts.

13. One of the big impediments for college going youth is the lack of green jobs which makes all youth led EE efforts temporary and short term. While campuses in India have started offering environment and sustainability related courses. Takers for environment related courses are still less. Once youth is out of college market mechanisms takes over.

14. It is not about green jobs but applying green lens for all jobs. There are three ways that can help higher educational institutions in preparing work for becoming better environmental managers; Knowledge enhancement, Skills and Competencies, Job Opportunities.

15. All jobs can be greened when we ensure all youth to be green intrapreneur for organizational change.

16. We need to bring both Intrapreneurship - sustainability and green economy perspectives into any job and Entrepreneurship – Green innovation and green jobs.

17. Ensuring Gender balance in green jobs is also important.

"Over 30 percent of students studying engineering in India are female, one of the highest rates in the world, yet they are largely absent from many core business segments and the upper echelons of corporate rooftop solar."

- In India shifting to green economy could add 3 million jobs only in the renewable energy sector by 2030.

- Youth need to apply the knowledge gained in their campuses not only to their professions but within their adult roles as consumers, voters, community members and investors, only then they will become better environmental managers.

Mr. Felix Matschie, Green Academy Africa Team Leader, Germany talked about how to convert schools in UNESCO Biosphere Reserves as demonstration sites for best practices concerning biodiversity conservation, climate change and preventing environmental pollution.

1. UNESCO Green academies are based on 5 pillars; Rainwater Harvesting and Utilization, Grey and blackwater recycling, clean energy production, Biomass production and Youth clubs.

2. These pillars covered directly or indirectly all 17 Sustainable Development Goals and can be implemented in every School. The school being societal Crosspoint where not only students learn and parents get to meet each other, to the teachers, it is a great place for knowledge precipitation where it can be learnt by practical implementation.

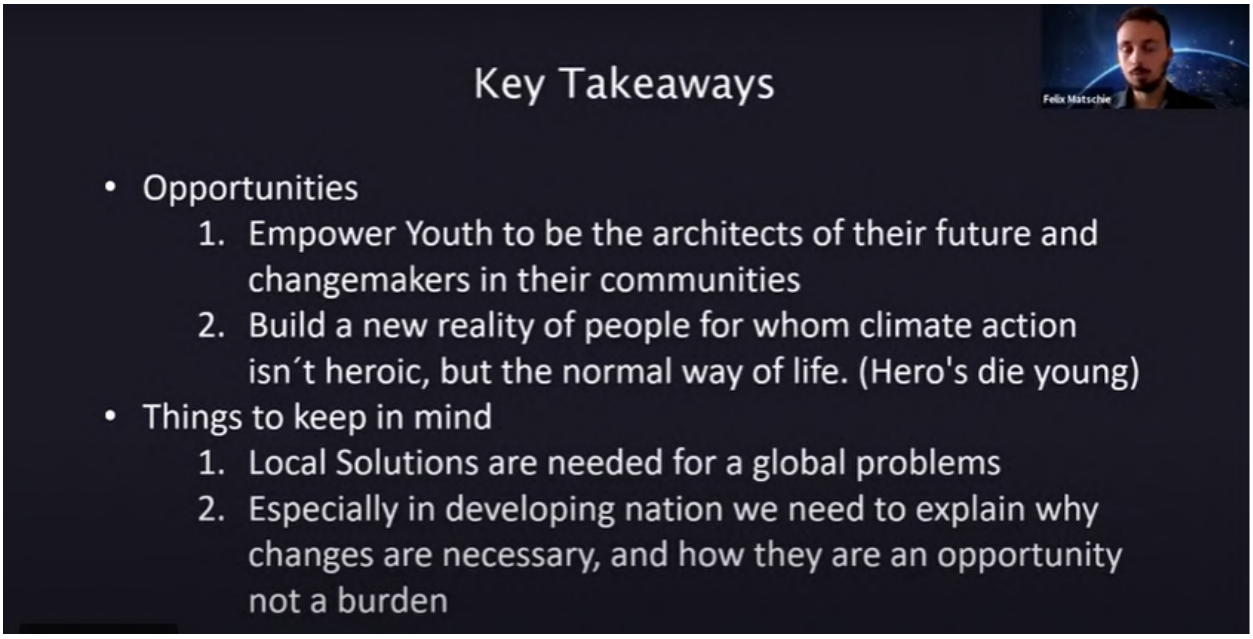
3. Two lessons about the reality of Developmental work when working on the project:

   Lesson 1 – The beauty of simple solutions
   The school does not have any access to water and there was no practical performed in the chemistry lab. There were no working pumps and were broken. In many cases we have to realize that simple solutions might not be as fancy, super-efficient as using high tech and new technology for example in the case of rain water harvesting it allows us to utilize the local sources, local infrastructure that is maintainable and therefore provides direct benefit which precipitate much father to the community and has higher impact.

   Lesson 2 – Waking people from the European/ Western Dream
   The Climate crisis is a global problem and thus required local solutions. Waking people means you can make them realize that it is a challenge, but this can be an opportunity to build unique system of infrastructure that interacts with nature in a sustainable way that will have much better longevity, health and life outcomes for citizens and have the capacity within themselves and their country. They are not dependent on any imported technology or copying what has done before. This way people feel empowered and they can see the solutions are always visible.

4. How to create green academies and how to use these lessons to teach people more positive way towards acting:

5. You don't have to motivate people over and over again and there are people who have their own incentives to get motivated that acts in profit the work you do for them. That's how you create sustainable way of environmental education, people can plan, act what they learn directly from their own school, see the benefits in their personal life and can take this to the community.



How important is the World Network of Biosphere Reserves for ecosystem restoration, biodiversity conservation?

There are 714 biosphere reserves as of now in the world and hopefully soon we will have 1000 of them. They should be connected to each other with the wildlife corridors, all of them functioning for nature conservation and models for sustainable human living. There are lot of money that has been wasted on human disasters and tragedies in the world. Countries should stop investing money in the wars rather should invest money applying the solutions against those things that we really have to defend which is pandemic, climate change, biodiversity loss and pollution. We have to demand our countries to balance the budget in better way and best way we have world network biosphere reserves which needs much attention.

What are the efforts taken right now for higher education sector in India?

There is an upcoming huge stakeholder dialogue looking at how environment and sustainability can be embedded in higher education which is called as India green universities network. There are wonderful work going on in the country and India has so thoughtful programs but people don't know about it as we don't collaborate and communicate. This dialogue will talk about the good things happening in terms of environment and sustainability in colleges, higher education sector and what is lacking, what are the opportunities and how can we collaborate?

The publication that UNEP developed little book of brain nudges, it talks about 40 interventions behavioural nudges that Youth can undertake within the campus, society and change their behaviour. As rightly said, sustainability is not a destination but a journey and a process.

What is the biggest institutional challenge for the projects like Green Academy?

It is as usual funding, as these are the new type of framework and donor agencies has multiple questions about sustainability aspects before giving funds. It is willingness and openness from institutions to engage with new initiatives.

SESSION 10
NATURE CONNECT & INFORMAL EDUCATION

Associated Organizations

MOBIUS FOUNDATION WWF IUCN

Introduction

More and more people worldwide are moving into cities with confined green spaces and low nature exposure. As a result, today's digital generation is experiencing less of nature and losing their innate ability to connect with it. The year 2020 led to a multi-fold increase in this disconnect by confining children to indoors with limited opportunities to experience the natural world.

A growing body of research has clearly shown that children and youth who have a greater connection with nature have a better affinity toward the environment, biodiversity and conservation. There is also evidence of benefits in the physical, emotional and mental wellbeing of children when engaged with nature around their homes, schools and neighbourhoods. Nature connect is critical for the conservation of our planet and the wellbeing of our people.

Hence, it is essential to adopt new and innovative methods to bring back experiences connected with nature into the lives of young people. The introduction of nature to one's everyday chores are through nature-based solutions. These promote sustainable actions to protect, manage and restore landscapes in any ecosystem to address effective changes. These changes benefit communities and societies to adapt to changing environment and enhancing their economic needs for future. The nature-based solutions can be easily practiced by changing individual habits. They are reaction to a chain of actions created by innovative mechanisms and individuals, for example inclusion of pollinators around agricultural landscapes, production of natural fibre products against plastic polymers, restoration of degraded landscapes, maintenance of green spaces within urban spaces, and plantation of native species. All these activities will advocate the promotion of biodiversity, ecosystem revival and uplift human well-being.

Young people are the ambassadors of their own future, and inculcating nature-based solution practices within their lives from a young age will lead them to increase the environmental footprints to reduce the effects of changing environment. This session talked about the various tools and experiences that can develop empathy, enjoyment, awareness and curiosity about nature and also explored how educators can integrate them into their education system.

Objectives

1. What is nature connect and the importance of an immersive, simulated, experiential and action-based approach to learning about the environment and biodiversity.

2. Various tools associated with nature connect and how the above tools and initiatives can be embedded.

3. Understanding nature-based solutions and how they can be integrated into conservation education.

Summary of the Presentations and Discussions

Ms. Chetna Singh Kaith Project Lead, Education WWF India, extended a warm welcome to all the participants, panellists and expert speaker for joining the session. She shared the purpose and the plan of the session.

She then invited Radhika Suri, Director, Education WWF India to give an overview of the session, present a video of a virtual trail, understand nature connect and its importance.
Ms. Chetna discussed the various tools of embedding nature experiences into the lives of children at home and at school.
Ms Archana Chatterjee, Programme Manager, IUCN India talked about understanding and integrating into education.
The conclusion on the session was done by Ms Chetna Kaith who also thanked everyone for joining the session.

Radhika Suri, Director, Education WWF

- She shared her childhood story about her experience with nature, how much she loved it and how it changed her life.
- She then took the audience through a nature trail video. The purpose of this video was to help our audience understand the positive effect of nature even when viewed digitally.
- To make the session interactive, Ms Suri asked the audience to write down the favourite part of the trail.
- The session then introduced nature connect and the Biophilia hypothesis: Humans have an innate tendency to connect with nature
- The session then explained the importance of nature connect from providing fun, relaxation, emotional happiness to strengthening social cohesion and improving life satisfaction
- Ms Suri, then backed her points with research studies which prove that nature connect make children healthier and smarter. Nature is important to children's development—intellectually, emotionally, socially, spiritually and physically.
- As a case study, Ms Suri gave the example of the Nature Clubs of India. WWF India started working on environment education over 50 years back and one the flagship programmes that ran for nearly 3 decades was NATURE CLUBS OF INDIA MOVEMENT which helped

people to connect with nature through trails and camps. They very strongly believed that if you connect children they are bound to love it and how it transforms the life of young individual.

Chetna Singh Kaith, Project Lead, Education, WWF India

- They believe that nature connect is very essential because it has the power to transform the lives and thought process of children.
- She then took the audience through the various tools to reconnect children with nature.
- The first and the most common way that is applied throughout the world are nature trails. They are short hand-on experiences where an individual is taken out in natural spaces. They learn to discover, touché and smell, the different elements of nature and also observe the urban biodiversity around them. Nature trails build the sense of importance for that natural area be it urban or be it a forested area.
- Second are Biodiversity workshops and courses which can be either on ground or be it digital. These workshops inculcate students with the nature related knowledge. They are also a way to build interactions.
- Third is transforming/greening of schools. It is important that the school must develop their estate into green spaces. They must have elements that involve students in activities like kitchen gardening, planting, tree tagging, vermicomposting etc. The schools can also have interesting wall murals as children learn through observation as well.
- Fourth is publication: We must develop storybooks, posters or activity books that ignite the interest of children to read and know more about nature.
- The last and most important is citizen science. We must not restrict Citizen science to students, it can involve teachers and parents. It is important that children get engaged in citizen science at an early stage as it builds the cadre of young scientists.

Ms Archana Chatterjee, Programme Manager, IUCN India

- She talked about IUCN Global Youth Summit and said how nature-based solutions are need of the hour.
- Nature is important for our psychological, mental wellbeing as well as our wellbeing of our health.
- International Union for Conservation of Nature (ICUN) is a membership union composed of both government and civil society organisation.
- It is organised into voluntary groups of scientists, decision makers and policy makers.
- ICUN Aims to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.
- Nature is an essential component of our planet. Protection and conservation of nature to dilute anthropogenic effects are vital to restore equilibrium.
- With the present world scenario quality of life with increasing population, restricted resources availability and pollution has decreased, it has shocked nature by creating imbalance.
- She gave brief about World Conservation Congress and little glimpse what US actor Harrison Ford said that it is time that we all act and make youth our main stakeholders for

making our world better, greener and healthier.

- ICUN on commission on education and communication: This is the commission which is responsible for several of the programmes engaging with youth and children.
- One of the important initiatives of ICUN is connecting nature and youth.
- 10000+ youth connected and exchanges their thoughts in first ever global youth summit in April 2021 and another initiative that was run was nature for all which is a global movement to inspire the lovers of nature.
- They are actions to protect, sustainability manages, and restore and modified ecosystem that address societal challenges effectively and adaptive, simultaneously providing human wellbeing and biodiversity Benefits.
- Nature 2030, it is the new programme that ICUN has adopted so the next 10-12 years will be working on issues concerning nature and challenges they are facing.

Conclusion and Outcomes

Making educators aware about nature connect programmes and how the various technique through which they can be built into their education system.

SESSION 11
ECOSYSTEM & SUSTAINABILITY EDUCATION

Associated Organizations

MOBIUS FOUNDATION | WWF | Wildlife Trust of India | Pushpa Gujral Science City – The Science of WOW

Introduction

'Ecosystem and Sustainability Education' was organised jointly by Wildlife Trust of India, Centre for Environment Education and Pushpa Gujral Science City. Panellists of the session were – Dr. Sandeep Kumar Tiwari (Wildlife Trust of India), Dr. Shriji Kurup (Centre for Environment Education), Ms. Nandita Mathur (United Nations Development Program) and Dr. Pravir Deshmukh (Confederation of Indian Industry). Dr. Samir Kumar Sinha (Wildlife Trust of India) moderated the session held on the second day of the conference i.e. 10th September 2021.

The moderator welcomed the panellists and participants. Highlighting the aims of the UN Decade on Ecosystem Restoration, he stressed on the importance of education, especially non-formal education including indigenous, traditional, local and scientific ways, in ecosystem maintenance and restoration, because education plays crucial role in strengthening the three pillars of sustainability i.e. Social, Environmental and Economic by fostering a sustainability conscious society.

The moderator introduced the speakers and explained the house rules of the session. Ten minutes were allocated to each speaker to detail their case studies and ideas, followed by a discussion involving other panelists. The discussion was directed towards identifying the challenges and key take-away points in the case study and approach shared by the speakers.

Summary of the Presentations and Discussion

Titles of the presentations by the speakers are as below:

- Dr. Sandeep Kumar Tiwari:
  Sustainability education for ecological restoration and protecting elephants in Garo Hills, Meghalaya.

- Dr. Shriji Kurup:
  Strengthening sustainability education for ecosystem conservation and restoration – experiences and learnings.

- Ms. Nandita Mathur:
  Driving ecological intelligence and sustainability education at the last mile.

- Dr. Pravir Deshmukh:
  Linking sustainability education and livelihood.

Dr. Sandeep Kumar Tiwari

Dr. Tiwari highlighted the works being done to empower people, connect landscape and consequently conserving elephants in the Garo hills region in Meghalaya. Over 90% of community owned forest ecosystems that supports a rich biodiversity of over 3100 flowering plant species, including endemic flora and 1200-1500 elephants, are under the administrative control of Garo Hills Autonomous District Council.

The area is rich in mineral deposits and water resources, especially rivers which present a huge potential of generating hydropower. The cultural diversity is immense due to presence of 158 tribes. However, the traditional practice of slash-and-burn cultivation (Jhum cultivation) results into loss of green cover and is a key driver of gaps in habitat connectivity's hindering the movement of elephants and other long-ranging species, subsequently leading to human-wildlife conflicts.

Under the project several interventions were made to address the key drivers and threats over the last 15 years. The framework for ecological restoration included participatory identification of threats and their impacts and causes; participatory planning for threat mitigation though traditional and scientific knowledge; education for skill development and joint implementation; and experience sharing and monitoring.

Engagement of women strata in planning was ensured and the project explained their observations and traditional knowledge on scientific basis. The local decision makers such as village heads and Nokmas (traditional Heads) were educated on the expected impacts of forest restoration on elephants and people. They were also convinced on setting aside lands to make positive changes in land-use for ecosystem preservation. The village youths were trained in mapping natural resources and demarcating different conservation zones.

They were also sensitized on the provisions of **Sixth Schedule (Article 244(2) and Article 275(1) of the Indian Constitution)**, which **protects tribal populations and provide autonomy to the communities** through autonomous development councils **for framing laws on land, public health, agriculture and others, to declare Village Reserve Forests (VRFs) as a substitute of protected areas.**
The villagers were educated on monitoring of the VRFs. The villagers and community leaders were educated on ecosystem values and preservation through exposure visits to protected areas and other project sites within and outside the state. The process facilitated better understanding of the principles and process of ecological restoration.

This was followed by restoration of the area cleared for jhum cultivation. Education and training of communities on scientific methods of forest restoration, seed collection and raising saplings, selection of right species and their proportion, plantation, weeding of plantation

areas and monitoring of survival of saplings etc. were the starting points. Involvement of locals in these activities was compensated monetarily, which helped them earning while actively restoring the area.
Children were directly involved in plantation activity and awareness drives to take the message of restoration to their parents. This entire process ensured sustainability of restoration efforts by providing learning environment to all stakeholders. **The overall wins of the effort with the locals are: Securement of two elephant corridors, notification of 4000 ha land as Village Reserve Forests, and restoration of 300 ha degraded.**

The presentation was followed by discussion on two key points:

- Major challenges faced during the project implementation.
- Opportunities of replicating these measures into other areas.

Dr. Tiwari highlighted that the process of restoration with community engagement takes longer time, hence patience, perseverance and securing consistent funding support is needed. However, the approach provides opportunities to engage local communities in the entire project cycle, which is important to sustain the efforts.

For other panellists of the session, the takeaway points were:

1. Looking at the problem jointly with communities, participatory planning and trust building are key to success of such projects.

2. While educating the communities for ecosystem sustainability, establishing linkages with livelihood opportunities is a must.

3. The restoration projects should be owned by local stakeholders for better management.

Dr. Shriji Kurup

The second presentation by Dr. Shriji Kurup focused around ecological restoration activities in coastal areas. He presented four case studies of sustainability education.

The first case study showcased environmentally sensitive rehabilitation of a tsunami affected village, Kodiyampalem in Cuddalore district of Tamil Nadu. The village is located in a sensitive coastal mangroves-mudflats and backwaters ecosystem. **Scope of the project was to rebuild about 150 houses for fishing village** which suffered massive devastation due to tsunami.

Building traditional brick houses under the project was not environmentally sound in the wake of loss of precious top soil to brick manufacturing process. Sustainability thinking and environmental sensitive conscious approach to the rehabilitation was central to the rehabilitation project. This precious environmental resource i.e. the top fertile soil was conserved by using bricks manufactured by fly ash which was available from the nearby Neyveli thermal power plant.

The major challenge was to motivate the villagers to buy in the idea of using the fly-ash

bricks, which they had never used despite its availability. The technology of fly-ash brick manufacturing was made available to the villagers who produced it and tested the strengths and properties of bricks using their traditional methods which helped them get convinced to use the bricks. It also built their trust in the project. Exposure trips to places where the bricks were used in construction were also organized for the community members.

The village rehabilitation work started with construction of one house and villagers themselves decided to move ahead with usage of the material in house construction, demonstrating a multiplier effect of the efforts in which different strata of the society worked together towards the village rehabilitation process. The houses were designed as per the local culture and tradition.

The semi-skilled workers in the village were trained in brick manufacturing, thus creating earning opportunities for them who were unemployed as an aftereffect of tsunami devastations. The use of fly-ash bricks prevented removal of fertile top soil for brick production. It also saved energy and prevented emission of approximately 100 tonnes of carbon dioxide contributing to climate mitigation.
Additionally, 1275 tonnes of fly-ash were reused and villagers were skilled for using a new construction material. The approach of the environmental sustainability project did not affect the socio-cultural dynamics of the village.

The speaker also shared experiences of different exercises, mainly through workshops on how the locals would sensitize decision makers. In the Ennore port area, the isolated patches of a Rhizophora species were neither studied nor published and were prone to local extermination silently. The project involved local researchers and the area was confirmed to be an ecological thriving entity. The area was mapped by the researchers and highlighted as important ecological set up. The pressure points were also identified and mapped. Development of coastal stewardship was emphasized and legal literacy and outreach helped them empowering for the protection and restoration of ecosystem and the services.

He also gave an example of mangrove restoration in Pulicat and highlighted the importance of communicating the technical knowledge of restoration by simplifying the scientific content and amalgamating it with traditional knowledge.
Demonstrating participatory research and learning and promoting social fencing also helped in harnessing restoration.

Through examples he also presented importance of citizen's vigilance as a way of sustainability education and bringing in ethical ways of assessment of biodiversity. Communication and dialogue (Samvaad) of people with governance at appropriate forums, such as - Gram Sabha and public consultations during Environmental Impact Assessments for highlighting public grievances for social justice and bringing sustainability questions on the forefront of policy-public discourse helped in bringing up consensus for short-term and long-term gains.

Emerging role of sustainability educators and practitioners as per the current needs was also emphasized by him as a strategy for sustainability education.

The key takeaways of the discussion were:

1. Sustainability education was an important driver for building an atmosphere of trust, collaboration for positive actions.

2. Participatory planning, implementation and evaluation helped in shared learning.

3. Reimagining development-restoration spaces with an ecosystem mind set and approach was important to influence policy.

4. The local best practices and traditional wisdom worked well in ecosystem restoration.

5. Connecting sustainability education with livelihoods enhancement was a must.

6. Legal literacy and outreach were an important strategy for protecting ecosystems and their services.

However, a major challenge faced by the project was maintaining a balance between the objectives and influences of multiple stakeholders.

Ms. Nandita Mathur

The third presenter Ms. Nandita Mathur, discussed her experiences of **working with the communities in Punjab with special focus on measures to reduce potential impacts of climate change.**
She emphasized on the fact that sustainability education impacted all Sustainable Development Goals. She illustrated it through two cases –
a. adoption of clean cooking solutions by rural women to restore forest ecosystem and b. restoration of farmlands through sustainable agriculture practices.

Women groups are more vulnerable to climate change impacts hence the group must be engaged in climate change dialogue and awareness. She presented an example of promotion of clean cooking solutions for the benefits of the society and natural resources as well. Awareness, engagement and capacity building of women were important means of climate literacy and sustainability.

The other major point highlighted by her, was to, make behavioural change component an integral part of education for sustainability. Her project created a programme called 'Dharma Chef' on the lines of 'Master Chef' – a popular TV show, and women were encouraged to come and cook on induction cook stove, and their talent was recognized and celebrated publicly. The event was also used to communicate message on how the use of traditional cook stove was impacting the forest ecosystem, and cumulative problems that emerged due to fuelwood consumption in the region in the past.

Engagement of women strata through institutions like self-help groups and celebrating the change makers who have created an impact is important for success of the interventions. SHGs are important for peer to peer learning. Being innovative in using visual communication tools,

such as gamification and digital simulations, is another aspect which requires attention to create awareness and inspire dialogue.

She also suggested to use common platforms like People's Campaign for Gram Panchayat Development Plan for localizing SDGs and promoting climate literacy. This platform provides opportunities for dialogue between government agencies and the local communities.

Dr. Pravir Deshmukh

Session's last presenter Dr. Pravir Deshmukh **deliberated on the sustainability perspectives of few of the activities done under India Business and Biodiversity Initiative of Confederation of Indian Industry.**

The initiative brings on board the industries and discusses biodiversity and community issues, especially related to the biological products sourced from certain areas. He discussed about **initiatives taken by an Ayurveda company which worked with tribal communities and trained them in identifying, collecting, processing, conserving and using plant species sustainably, besides providing them the buyback facility.**

A Forest Producers Groups was created and enabled financing for the group. The initiative provided a new income source to the tribal community, which triggered conservation of important species.
He highlighted the importance of buying back facility for income generation and concluded that sustainability practices and education must have a strong element of income generation.

However, a major challenge faced in such initiatives is multiple certification systems and methodologies adopted by companies, which often creates confusion among farmers. **The other panellists also found that linking livelihoods and wellbeing of people with ecosystem restoration is an important aspect for success of such interventions.**

Key Takeaways

1. Joint planning, implementation and monitoring with local communities are key to success of ecosystem restoration and sustainable use of resources.

2. Ensuring people's participation in sustainability projects is of utmost importance.

3. Patience of project implementers is a must to get desired results.

4. Recognizing local best practices and integrating them in sustainability education is important.

5. Legal literacy among the local community groups is important for ecosystem restoration.

6. Facilitating networking among stakeholders by providing a common platform is important

in ecosystem restoration and sustainable education.

7. Ecosystem Restoration and sustainability education must be linked with livelihood and well-being of people.

8. Behavior change measures must be integral to sustainability education.

9. 'Samvaad' i.e. communication through public consultations as a strategic tool for enhancing engagement.

10. Engagement of women is a must in ecosystem restoration and sustainability education.

September 10, 2021

DAY 2
CONCLUDING PLENARY

Mr Kartikeya Sarabhai, Founder and Director, Centre for Environment Education (CEE) congratulated everyone for being part of the wonderful conference and contributing towards making all the sessions successful. He thanked all the panellists, speakers, participants and added that use of the state of art technology in the conference itself is a learning and we will get better at it gradually. Hopefully, it will not replace face to face interaction but certainly, it is something which will stay permanently with everyone. He applauded the YRE Rapporteurs who reported all the 11 sessions and summarised by presenting 2 days separate Newsletters at the end of the conference. He presented the summary of the two days session as below:

1. Many panellists spoke about how the new technology is a rapid learning curve for the teachers, students, rural communities and several others. In some cases, it has been formalized and people have already been taught how to do this. Therefore, the whole concept of training for using the medium efficiently and effectively is something should be promoted.

2. Environment Education or ESD need to consider the livelihood and economic issues also. While we are into core environmental education, all the three pillars social, economic and environmental are equally important and interconnected. In India, the infusion approach of EE needs to be practiced rather than a separate subject that is mainstreaming. The population will go to a certain level and be limited but what matters is the quality of education. This will have a huge impact on the population and several other educational initiatives such as girl child, women empowerment that are there in India.

3. There were discussions as to how citizens and communities can be involved. Youth not only need to be educated but involved in decision making and to be equipped with educational tools and resources for effective participation. There comes a local problem where education has to change not only at a global level but even at the ground level for example handprint actions or positive action adopted by communities.

4. India essentially had a circular economy and the mindset has been circular. It has been made to look linear or the whole development approach has become linear but the genetics are very much circular. India is not a throwaway culture but a repair culture and the vision of development is not the same as what west country follows which is more carbon-intensive and fossil fuel-intensive.

5. A lot has been done since the 90s when EE as a compulsory subject was introduced. Many people and groups were involved and some programs shared were also enormous. There is a concept known as the tipping point which means the person who always throws plastic onto the street but when they go to the other place where that is fined, the same person will keep the plastic with them. This is known as a tipping point. This mindset needs to be transformed.

6. The agenda for 2030 and SDGs has brought in several issues and the population is an additional one that is coming into the discussions. People still do not know enough that education can make a difference.

Vote of Thanks

Dr Ram Boojh, CEO, Mobius Foundation proposed the vote of thanks. He specifically thanked Mr. Kartikeya Sarabhai for his constant support and function as the Chairperson of Technical Advisory Committee (TAC). He was gratified to Mr Pradip Burman for tirelessly giving his time and resources for ICSE 2021. He thanked the distinguished dignitaries for their valuable contribution and showed appreciation to the partner organizations, his colleagues and event managers who helped either directly or indirectly, to make the conference successful. At the end he extended his thanks to all the participants for attending the event online.

"The journey of ICSE was overwhelming when it began in 2019. It is a new experience of doing this on virtual platform and number of participants attending the conference increased three to four times since 2019."

WORDS OF APPRECIATION
FROM THE DECLARATION WALL

The two day conference on Sustainability Education was very interesting and informative. Promoting ESD is important in schools for the development of the knowledge, skills, understanding, values and actions required to create a sustainable world, which ensures environmental protection.

Very effective talk on current issues – we learnt so much more about sustainable education and quality education.

Wonderful session on the theme of Climate Change and Education. Hope we'll have some more in the coming days. Thanks to the organisers, partners and speakers for your effort towards restoration of our Earth.

I really like the webinar conducted. This helps me as an educator in reskilling and rethinking design in the lesson that I need to teach my students and to positively integrate Sustainable Education. This surely benefits my students in school as well as the parents as our stakeholders in making sure that they contribute in making our planet a better, safe place to live in the future.

It was a great experience to have all the educational as well as environmental personalities on one platform.

ICSE 2021 - SPECIAL EDITION

3rd International Conference on Sustainability Education (ICSE)

September 9 and 10, 2021

in partnership with

SHOWCASING THE POWER OF SUSTAINABILITY EDUCATION

Sustainability Education is a powerful approach to bring the much-needed transformation towards a sustainable world. With this perspective in mind, the International Conference on Sustainability Education (ICSE) was organized on 9th and 10th September 2019 with the focussed theme "Education for Ecosystem Restoration" on Day 1 and the deliberations of the 2nd day were devoted to the theme of "Climate Literacy".

The conference was attended by over 1500 participants apart from 55,000+ online viewers internationally from 20 countries including Bangladesh, Belgium, Brazil, Canada, China, Denmark, Finland, France, India, Laos, Malaysia, Nepal, Oman, Pakistan, Philippines, South Africa, Sri Lanka, United Kingdom, and USA.

ICSE 2021 – Smart Conference

3rd ICSE used state of the art technology to enable the participants to have feel and experience of the real event with **4 plenaries, 11 parallel sessions, exhibition halls, Networking lounge, 'I am at ICSE' captioned selfie booth, e-resource centre, Polling graphical analysis, virtual Declaration Wall** etc.

Lobby: Participants had an experience of real conference through virtual mode.

E- Poster Hall: Participants contributed through posters in ICSE 2021

ICSE 2021 was formally opened by **Mr. Pradip Burman, *Chairperson, Mobius Foundation*** by virtual lamp lighting. He said in his inaugural speech

"It is more necessary than ever before to hold such efforts as we are no way closer to the goals which were initiated in Paris to be achieved by 2030, we are even no way closer in 2021 as well".

The **Chief Guest at the conference Mr. Atul Bagai, *Country Head, UNEP*** - India emphasized

"Mobilization of community at large is the most important element in this fight which we are taking forward in restoring our nature".

Mr. Terry Spahr, *Founder and Director* of Earth Overshoot shared a video titled 8 billion Angels to firm the message of the critical state of the environment and further expressed that

"Population explosion is as serious as climate change".

Mr. Kartikeya Sarabhai, *Founder and Director, CEE* delivered his key note address stating **"ICSE 2021 is a learning experience with this new technology and hopefully it will not replace face to face interactions"**.

SEPTEMBER 09, 2021 (THURSDAY)

SESSION 1: School Education

The session had discussion on key points for keeping ESD 2030 and National Education Policy framework and how UN Decade for Ecosystem Restoration can be integrated.

"When we speak about climate change, we have to teach about the science behind it and also the social, economic, cultural aspects and challenges of the same. In order to make EE or ESD more meaningful, all subject teachers need to adopt this interdisciplinary approach."

Dr. Chong Shimray, *Assistant Professor, Department of Education in Science and Mathematics, National Council of Educational Research and Training (NCERT), Delhi*

Participants
222

SESSION 2: IT Based Solutions for Education

Session discussed the role and scope of technologies for Sustainability.

"There is need for IT network and tools to share the knowledge in an interactive way."

Dr. Pramod Kumar Sharma
Senior Director of Education
Foundation for Environmental Education (FEE)

Participants
109

SESSION 3: Role of Youth

Advocacy is very important for youth to engage in and a way to influence decision makers. Youth need to be a part of movements and consciously build their voice.

"It is time to act but it is also time to do restoration in right way. We do lot of restoration but need to be long term and sustainable."

Ms. Madhavi Joshi, *CEE*

Participants
141

SESSION 4: Climate Literacy leads to Green Jobs

The move to green jobs mandates that the new generation of learners are climate literate, upskilled, and innovative to build a resilient and green economy.

"Demand for change comes from the educated citizen."

Mr. Nick Nuttall
International Strategic Communications Director, Earthday.org

Participants
94

SESSION 5: Education for Promoting Sustainable Tourism in Coastal Areas

Session had discussion on current practices in sustainable coastal tourism management and approaches associated with educational and capacity building efforts.

"The Blue Flag programme is characterized by its whole-institutional approach, aiming at raising awareness on sustainable coastal management and on strategies to reduce the environmental footprint worldwide."

Mr. Johann Durand, *Blue Flag International Acting Director, FEE*

Participants
60

SEPTEMBER 10, 2021 (FRIDAY)

SESSION 6: Climate Change, Education and Literacy

Climate literacy can promote climate science, innovation, rooted solutions, and disaster adaptation to mobilize communities for climate action.

"Innovation, technology, and behavioural change are the key factors for climate education."

Mr. Aditya Pundir, *Director – India and South Asia*
The Climate Reality India

MOBIUS FOUNDATION | The Climate Reality Project INDIA | CEE Centre for Environment Education | teri

Participants
391

SESSION 7: Education for Advancing Circular Economy

The system of the circular economy must be understood as a simple process that can enhance our creative potential, increase material use/flow and develop a structured approach to ensure environmental compensation.

"What is really exciting to us in circular economy, we all need to pause and think. This will help us in education for advancing the Circular Economy."

Mr. Prabhjot Sodhi, *Senior Programme Director, CEE*

MOBIUS FOUNDATION | CEE Centre for Environment Education | FEE | ICE & SDGs | FAIRTRADE INDIA

Participants
119

SESSION 8: MISSION SUSTAINABILITY- Education and awareness for population stabilization

Education and communication must be utilized to create awareness about population growth.

"The population growth in India currently at stabilizing mode and whatever efforts we make, the population will grow up to five and six billion and after that, it will stabilize. So, you really need to plan for how to live with 6 billion population."

Dr. K. S. James, *Director and Sr. Professor, International Institute for Population Sciences, Mumbai*

MOBIUS FOUNDATION | PFI POPULATION FOUNDATION OF INDIA

Participants
75

SESSION 9: Ecosystem Services, Biodiversity, and Forest Ecosystem

To conserve the blue carbon ecosystem, it is necessary to support scientific research, monitor coastal mangroves/sea beds/salt marshes, and invest in nature-based solutions.

"Carbon Ecosystems should be conserved as a priority, and scientifically restored."

Mr. Benno Boer, *Programme Specialist for Natural Sciences*
UNESCO New Delhi

MOBIUS FOUNDATION | UNESCO United Nations Educational, Scientific and Cultural Organization

Participants
48

SESSION 10: Nature Connect and Informal Education

Nature connects through education, awareness, and nature-based solutions for conservation will create the space for inclusive individual actions and solutions in turn promoting stewardship.

"Nature is important for our psychological, mental well-being as well as our wellbeing of our health."

Ms. Archana Chatterjee, *Programme Manager, IUCN India*

MOBIUS FOUNDATION | WWF | IUCN

Participants
63

SESSION 11: Ecosystem and Sustainability Education

The Session Highlighted the aims of the UN Decade on Ecosystem Restoration, importance of education, especially non-formal education including indigenous, traditional, local and scientific ways, in ecosystem maintenance and restoration, because education plays crucial role in strengthening the three pillars of sustainability i.e. Social, Environmental and Economic by fostering a sustainability conscious society.

Participants 53

"Women groups are more vulnerable to climate change impacts hence the group must be engaged in climate change dialogue and awareness."

Ms. Nandita Mathur, *UNDP*

WORDS OF WISDOM FROM DISTINGUISHED DIGNITARIES

ICSE is an initiative to create a youth as advocates of sustainability, at the age when they can be moulded into one.

Mr. Pradip Burman
Chairperson, Mobius Foundation

We must dedicate ICSE 2021 for the hope of the future

Dr. Ram Boojh
CEO Mobius Foundation

Lavish life is an unfortunate part of human life, which is somewhere damaging the earth. Individual accountability needs to be focused.

Dr. Anil Prakash Joshi
Padma Bhushan Awardee, Founder of HESCO

Education should be transformative and allow us to make informed decisions and take individual and collective action to change our societies.

Mr. Rajendra Singh
Ramon Magsaysay Awardee and Water Man of India

It is necessary Empowering educators with equipped knowledge, skills, values and attitude to take responsible action for environmental integrity, economic viability and sustainable society.

Dr. Vibha Dhawan, *DG, TERI*

To live in harmony with nature it is necessary for everybody to start working together.

Ms. Donna Goodman
Founder and ED Earth Child Institute

WORDS OF APPRECIATION FROM DECLARATION WALL

- It was the great experience to have all the educational as well as environmental personalities on one platform.
- The two days conference on Sustainability Education was very interesting and informative. Promoting ESD is important in schools for the development of the knowledge, skills, understanding, values and actions required to create a sustainable world, which ensures environmental protection.
- Very effective talk on current issues and we learn more about the sustainable education and quality education. If you can provide the connection by which we can bifurcate the funds from one corner to another corner of the society, by using the channelization of funding sources.
- I really like the webinar conducted. This helps me as an educator in reskilling and rethinking design in the lesson that I need to teach my students and to positively integrate Sustainable Education. This surely benefits my students in school as well as the parents as our stakeholders in making sure that they contribute in making our planet a better safe place to live in the future.
- Wonderful Session on the theme of Climate Change and Education. Hope, we will have some more in coming days. Thanks to Organisers, Partners and Speakers. for Your Effort towards Restoration of our Earth.

For more details and relevant documents related to the Conference, please visit www.icse2019.org

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9th September 2021

International Conference On Sustainability Education

September 9-10, 2021 | 14:00-18:00 Hrs IST

Highlights by Young Reporters for the Environment

Young Reporters for the environment

Opening Plenary

"Unhealthy ecosystem will lead to unhealthy life for human beings."
-Mr. Atul Bagai, Head of Country Office, UNEP India

Session 1 : School Education

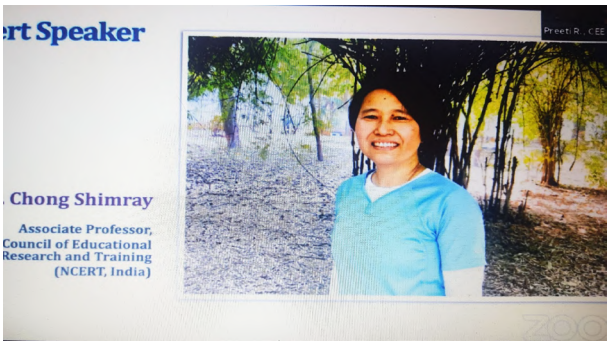
We have diverted attention to technology which is the main reason why we aren't bothered by the inclusion approach.

Session 2: IT Based Solution for Education

Technology will not replace great teachers but technology in the hands of a great teacher can be transformational.

"ICSE is an initiative to create a youth as advocates of sustainability, at the age when they can be moulded into one."
-Mr. Pradip Burman, Chairperson, Mobius Foundation

SESSION 1 : SCHOOL EDUCATION



A question raised by Dr.Chong Shimray paved the way for everyone's thinking instincts. The question included the holistic teaching of the National Education Policy (NEP) subjects such as climate change, hygiene, sanitation, and sustainable development by one teacher only.

"If we talk about environmental issues we cannot talk only about science, it has to be interdisciplinary."
- Dr.Chong Simray, Associate Professor, National Council of Educational Research & Training (NCERT), New Delhi

Ms.Kinjal Gajera, Managing Trustee, Smt. S.H. Gajera Charitable Trust, Gujarat quoted Nelson Mandela as "sometimes it falls upon a generation to be great, you can be that generation too."

Session 3: Role of Youth

"The beauty is that it can happen at any scale and everyone has a role to play."
-Madhavi Joshi, Sr. Programme Director, CEE

Session 4: Climate Literacy leads to Green Jobs

"We are like in a 15-hour long flight going from India to the U.S., whatever is there inside the flight, it can only come in whatever is inside and we can't change the material. Similarly, we can't change materials from other planets, but we can make a change to whatever is available on our planet." -Prof. Chetan S. Solanki, founder of Energy Swaraj Foundation.

Session 5: Education for promoting sustainable tourism in coastal area

Initiatives like the international Blue Flag award show the benefits of an approach that builds capacity for evidence-based, local governance and management, guided by international good practices.

SESSION 3: ROLE OF YOUTH

Restoring 15% of converted lands in the right places could prevent 60% of projected species extinction.
Below is some footage from Samarrth Khanna about the Mini Forest project in the National Capital Region (NCR).

Samarrth Khanna stated that neighborhood children gathered to help plant the Mini Forest. Furthermore, the Mini Forest later served as a place for Environmental Education for all the students of the area.

Samarrth said, "The soil was so dry the roots could not spread". Now, it is a little green island in a roundabout that is home to a variety of birds and other animals.

SESSION 4: CLIMATE LITERACY LEADS TO GREEN JOBS

"How will we gain success and know that a quality climate education will actually impact on the climate and also on the green economy and jobs?"

Two fundamentals we need to adopt in our solution :

It is called **The laws of existence / The laws of sustainability** by Prof. Chetan S. Solanki, founder of Energy Swaraj Foundation.

1. Limit the resources that we consume.
2. Localize production of energy. Use local resources. We rescale local manpower, not only do we fulfill our energy needs but we are also creating jobs for millions of people and strengthening the local economy because many are now taking part in the local economy. At the same time, we also reduce our dependence on other countries.

"We need to bring circularity back into our economy where nothing is wasted, it will employ more people and will probably be better in terms of wealth creation than the current system that we have in front of us" -Nick Nuttal, Head of Communication, UN Framework Convention on Climate Change

10th September 2021

International Conference On Sustainability Education

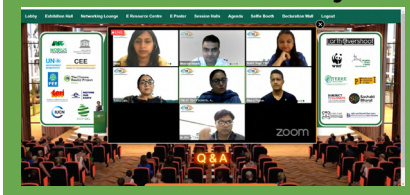
September 9-10, 2021 | 14:00-18:00 Hrs IST

Highlights by Young Reporters for the Environment

Young Reporters *for the environment*

A Virtual Conference

Session 6: Climate Change, Education and Literacy



"In the training program initiated by the Climate Reality project, during the green sessions, not only students but their parents also join for a better understanding of the subject." -Ms. Rekha Lulla, Program Manager, The Climate Reality Project, India

Session 7: Education for Advancing Circular Economy

"Society needs to start somewhere, and that is (waste) segregation." -Ms. Shalini Sharma, Founder Director, Global Institute for Circular Economy & SDGs, India

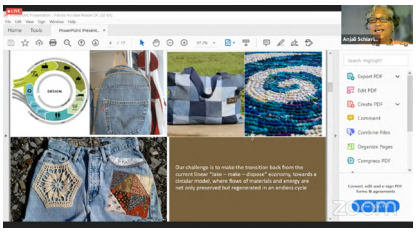
"We must dedicate ICSE 2021 for the hope of the future"
-Dr. Ram Boojh, CEO Mobius Foundation

Opening Plenary

"Children are our future, but we should give them the skills set to build the future for themselves." -Dr. Vibha Dhawan, Director General, The Energy and Resources Institute (TERI)

"We were just born 4 hours ago!"

"If we consider the age of mother nature - 4.6 billion years as 46 years, then we (humans) have just been born 4 hours ago and whatever damage we did to mother nature is within 30 minutes." -Dr. Anil Prakash Joshi, Founder HESCO



Session 7: Education for Advancing Circular Economy

On the left is an example of reusing materials to create new products. Anjali Schiavina is concerned about how to ensure that products made from reused material become more mainstream.

"When we connect the student to the farmer and he gets to meet him face to face, or we connect the students to the workplace, or to the factories, so what happens is what they have learned, they will experience, and what they experience, they don't forget."
-Ms. Anjali Schiavina

Session 8 : MISSION SUSTAINABILITY-Education and awareness for population stabilization

"Population explosion is as serious as climate change."
-Mr. Terry Spahr, Founder, and Director, Earth Overshoot

Session 9: Ecosystem Services, Biodiversity, and Forest Ecosystem

"The last year 2020, I often thought, was it a setback to our globe? We saw what was happening in terms of the human cost, environmental cost and the economic cost that we have to pay. One thing is very clear, Covid-19 showed us the interconnectedness of how the environment, society, and economy are intricately connected and how these connections affect the well-being of our society."
-Ms. Gayatri Raghwa, Environment Education Consultant, UNEP

SESSION 10: Nature Connect and Informal Education

"Humans have an innate tendency to connect with nature."
-Ms. Radhika Suri, Director, Education WWF India

SESSION 8 : MISSION SUSTAINABILITY- Education and awareness for population stabilization

Since 1900, the world has gone on to produce five times more people. So any action is the need of the hour. The distribution of contraceptives is the most important aspect taken into consideration but as we see in rural India, women want to stabilize the population but they do not have the means to do so.

"To choose between development and environment respectively, the second should always come first."- Dr. Pradip Burman, Chairperson, Mobius Foundation

SESSION 9: Ecosystem Services, Biodiversity, and Forest Ecosystem

"Normally everybody says YES it's time to change. We all want change but when they ask who wants to change, people are not so ready to raise their hands." -Ms. Gayatri Raghwa, Environment Education Consultant, UNEP

Below are the figures of mangrove coverage across the globe shown in a video.

SESSION 10: Nature Connect and Informal Education

There are mainly 2 reasons for nature disconnect which are "Tech Boom" and "Pandemic". Youth need to connect with nature.

The various tools to reestablish the lost nature connection for the youth can be:

- **Ecotrail** - Observation skills and knowledge about eco-sensitive areas
- **Biodiversity workshops and courses**
- **Green schooling** - Eco-schools with kitchen / herbal gardening
- **Publication for identification of biodiversity**
- **Citizen Science**

The initiative, "Nature for All" - to work with communities with climate change and biodiversity in silos, involving all indigenous people, youth, women and commercial sectors in a single platform to preserve and protect the existing biodiversity.

India takes the BONN CHALLENGE - India has decided to restore degraded forest and the landscape of over 20 million hectares.

Concluding Plenary

"Nature connection is not just going into nature and looking at the beautiful things around. It has emotional wellbeing, it has mental wellbeing attached to it."
-Ms. Chetna Kaith, WWF Project Lead reporting on Session 10

One-to-one interview session with speakers

I heard that when making the documentary, 8 Billion Angels, your aim was to make an emotional impact. What kind of challenges did you face to make an emotionally impactful documentary?

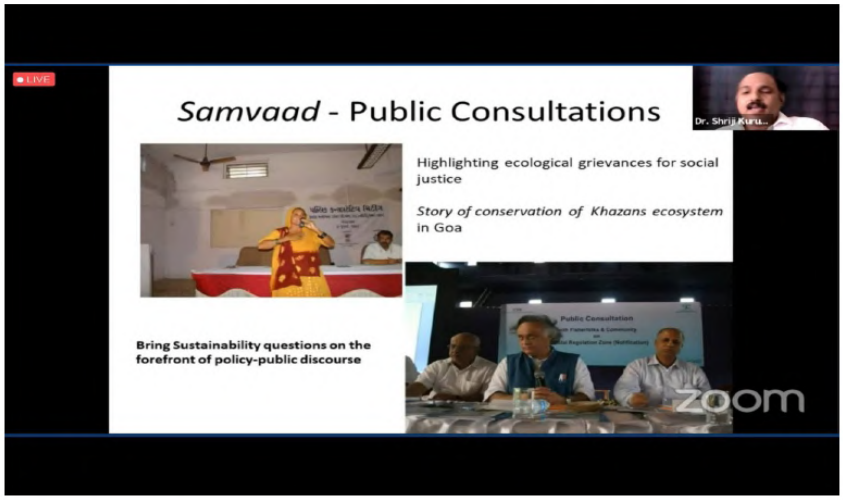
"I think that what's important with storytelling is you can't have people who occupy a screen and say, this is how you do things. You can't have it to be the word of didactic. People who teach others, they have to rise organically, and the stories that are in the film (8 Billion Angels) are people in their environment, whether it is the oyster farmer who is struggling with the warming waters and the acidification of the waters for trying to grow his oysters to the struggle of people trying to breathe the foul air." -Mr. Terry Spahr, Founder and Director, Earth Overshoot

How can a local community make sense of quality environmental education and its relevance for the strata of our society such as rural schools?

"We should realise that SDGs may not be known to many till the time they are advanced but they will still understand what is bad for the environment and bad for living. So many of the things they will implement, before they know that it is a part of SDG." -Mr. Kartikeya Sarabhai, Founder and Director, Centre for Environment Education (CEE)

SESSION 11: Ecosystem and Sustainable Education

Dr. Shriji Kurup, Programme Coordinator, CEE shared viewpoints addressing **'key challenges and strategies for engaging citizens and communities towards sustainability education for restoring ecosystems.'** Below are some of the highlights cited from CEE programmes and projects.



- Samvaad - public consultations and organizing power of a collective - as a strategic tool for enhancing engagement
- Creating shared learning experiences through participatory planning, implementation and evaluation
- Reimagining development - restoration spaces - with an ecosystem mindset and approach - influencing policy
- Building from Parampara - traditional wisdom
- Connecting sustainability education with livelihoods enhancement
- Legal literacy and outreach as a strategy for protecting ecosystem services and spaces

Interview with Mr. Atul Bagai, Country Head UNEP-India

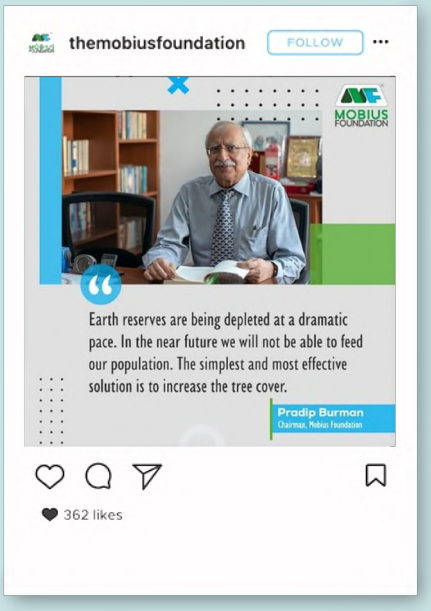
What emphasis would you like to give to youth like us in being much more responsible citizens, the first to get affected by climate change and the last to mitigate it, in protecting the ground we stand for a healthy sustainable future where quality of air, water, food and living are a right to all unbiased?

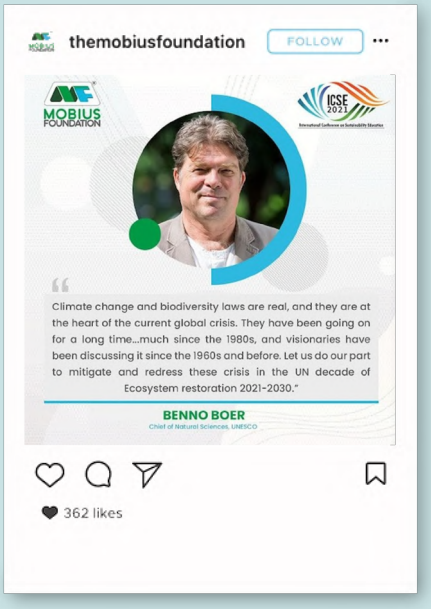
"Wrath of climate change , done by an older generation than ours, the impact is borne by your generation and this is a sad reality. But there should be hope that is by understanding the quantum of the problem and the associated impact created.Youth can take up actions and you are powerful and can have important influence especially at the starting of the consumption decisions at the family level and when you decide on what product you need to purchase, the producers will be forced to shift to more eco-friendly manufacture."
-Mr. Atul Bagai, Country Head, UNEP India

DIGITAL CAMPAIGN REPORT

In International Conference on Sustainability Education 2021, Mobius Foundation aims to instil in learners and educators a conscious awareness of the planet and the various issues underlying Sustainable Development.

The digital promotion of ICSE2021 happened from 22nd August to 10th September 2021 which included the buzz of the event, sessions information, schedules and speakers' details. On the day of the event the live streaming was done for the Plenary and few thematic Sessions on YouTube and Facebook.





Total Posts - 26

Total Videos - 4

Pre-Buzz Posts - 14

Event Day Posts - 5

After-Event Posts - 7

Facebook Live Stream

Social media performance for the conference promotions:

Total Engagement:
21,425

Total Views:
40,288

Total Reach:
2,60,075

Total Impressions:
3,51,104

PROGRAM SCHEDULE : DAY 1

Theme: Education for Ecosystem Restoration

September 9, 2021 (Thursday)
Time - 14:00 - 18:00 hrs IST (GMT + 5:30)

14:00 - 15:00 hrs	**Showcasing the Power of Sustainability Education** - **Opening of the Conference**/ Exhibition/Posters/ E-Resource Centre	Mr. Pradip Burman, Chairperson, Mobius Foundation

OPENING PLENARY

15:00 - 15:30 hrs	Dr. Ram Boojh, CEO, Mobius Foundation	Welcome and Introduction
	Mr. Kartikeya Sarabhai, Padma Shree Awardee, Founder and Director, Centre for Environment Education (CEE)	Opening Remarks
	Mr. Terry Spahr Founder and Director, Earth Overshoot	Keynote Address
	Mr. Atul Bagai, Country Head, UNEP-India	Keynote Address

15:30 - 16:30 hrs

BREAKOUT ROOMS (Parallel Sessions)

Session 1	Session 2	Session 3	Session 4	Session 5
School Education - CEE + WWF India	**IT Based Solutions for Education** - WWF India + Sashakt Bharat + NIOS	**Role of Youth** - TERI + CEE + TERRE Policy Centre + The Climate Reality Project + WWF India	**Climate Literacy leads to Green Jobs** - Earth Day Network + www.earthday.org	**Education for Promoting Sustainable Tourism in Coastal Areas** - FEE + CEE

16:30 - 17:00 hrs

CONCLUDING PLENARY

Presentation of Key Conclusions by Breakaway Session Leaders

17:00 - 18:00 hrs	Networking Lounge/Exhibition/Posters/E-Resource Centre

PROGRAM SCHEDULE : DAY 2

Theme: Climate Literacy

September 10, 2021 (Friday)
Time - 14:00 - 18:00 hrs IST (GMT + 5:30)

14:00 - 15:00 hrs	Networking Lounge/Exhibition/Posters/E-Resource Centre

OPENING PLENARY

15:00 - 15:30 hrs	Dr. Anil Prakash Joshi, Padma Shree Awardee, Founder of Himalayan Environmental Studies and Conservation Organization (HESCO)	Opening Remarks
	Mr. Rajendra Singh, Water Man of India, Ramon Magsaysay Awardee	Keynote Address
	Dr. Vibha Dhawan, Director General, The Energy and Resources Institute (TERI)	Keynote Address
	Ms. Donna Goodman, Founder and ED, Earth Child Institute (ECI)	Keynote Address
Moderated by Dr. Ram Boojh, CEO, Mobius Foundation		

15:30 - 16:30 hrs

BREAKOUT ROOMS (Parallel Sessions)

Session 6	Session 7	Session 8	Session 9	Session 10	Session 11
Climate Change Education & Literacy - CRP + TERI + CEE	**Education for Advancing Circular Economy** - FEE + CEE + ICEs & SDGs + Fairtrade India	**Mission Sustainability: Education & awareness for population stabilization** - Mobius Foundation + PFI + Earth Overshoot	**Ecosystem Services, Biodiversity and Forest Ecosystem** - UNESCO + UNEP	**Nature Connect and Informal Education** - WWF India + IUCN	**Ecosystem & Sustainability Education** – CEE + WTI + Pushpa Gujral Science City

16:30 - 16:50 hrs

CONCLUDING PLENARY

Presentation of Key Conclusions by Breakaway Session Leaders

16:50 - 16:55 hrs	**Concluding Remarks:** Mr. Kartikeya Sarabhai Founder and Director, Centre for Environment Education (CEE)
16:55 - 17:00 hrs	**Vote of Thanks:** Dr. Ram Boojh, CEO, Mobius Foundation
17:00 - 18:00 hrs	Networking Lounge/Exhibition/Posters/E-Resource Centre

For more details & relevant documents related to the conference, please visit: www.icse2019.org

PARTNERS – ICSE 2021

MOBIUS FOUNDATION

United Nations Educational, Scientific and Cultural Organization

UN environment programme

CEE
Centre for Environment Education

FEE

The Climate Reality Project INDIA

teri

EARTHDAY.ORG

WWF

EarthOvershoot

Wildlife Trust of India

राष्ट्रीय मुक्त विद्यालयी शिक्षा संस्थान
National Institute of Open Schooling

IUCN

POPULATION FOUNDATION OF INDIA

Pushpa Gujral Science City
The Science of WOW

TERRE Policy Centre
Technology, Education, Research and Rehabilitation for the Environment
Leading platform for development through Alternate Path

SUBJECT to CLIMATE
The Climate Change Resource Connection

Sashakt Bharat
Empower. Engage. Impact.

FAIRTRADE INDIA

ICE & SDGs

ABOUT MOBIUS FOUNDATION

The Mobius Foundation is a Delhi-based non-profit sustainability think tank, working towards the promotion of sustainability through education and empowerment using various approaches, tools, and technologies for a safe and secure planet.

The foundation was set up in 2015 with a view to mobilize individuals and communities, including a diverse range of international and national agencies, civil society partners, NGOs, and institutions, to contribute towards the achievement of Sustainable Development Goals (SDGs) – specifically goals related to Education (Goal 4) and others related to Environment & Population.

To meet its objectives, the foundation is running programs like International Conference on Sustainability Education (ICSE), waste and circular economy, population stabilization, mission sustainability, setting up World Environment School, Gyan Anant Vidyalaya (GAV) and Youth For Earth Campaign across the South-Asian region and many more.

Photo Credit: unicef.org

> Unhealthy ecosystems will lead to unhealthy life for human beings

> ICSE 2021...offers a wonderful platform for examining efforts... that will lead us to a better future

> These issues are real... All of us, every single one of us... has to be part of the momentum to reduce these existing global problems

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