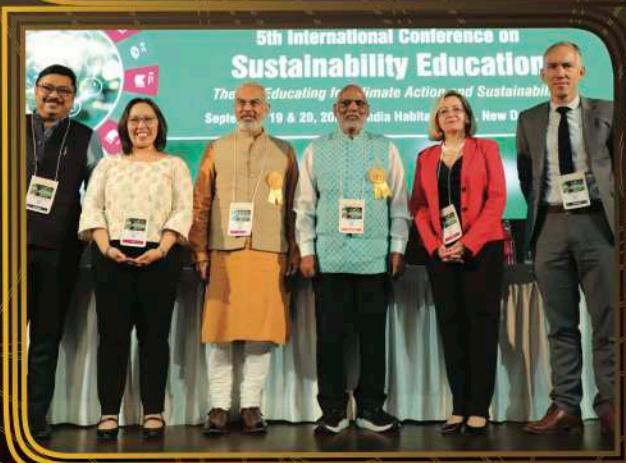
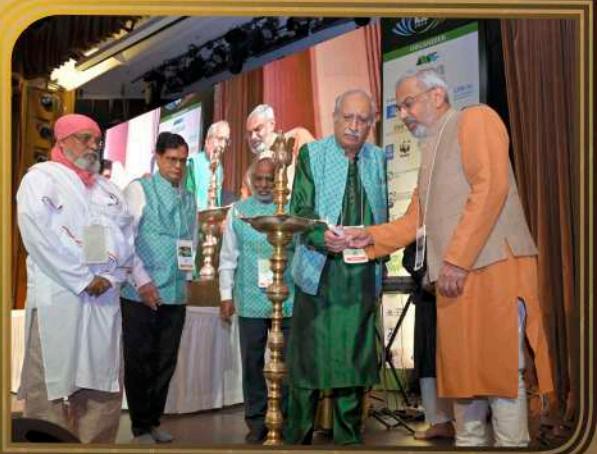


5th INTERNATIONAL CONFERENCE *on* SUSTAINABILITY EDUCATION



**CONFERENCE
REPORT 2023**

5th International Conference on Sustainability Education (ICSE) 2023– Conference Report

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MOBIUS
FOUNDATION

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5th INTERNATIONAL CONFERENCE on SUSTAINABILITY EDUCATION

*Theme:
Educating for
Climate Action and
Sustainability*



*September 19 & 20, 2023
India Habitat Centre,
New Delhi, India*

CONFERENCE REPORT

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ABOUT ICSE 2023

Background

Climate change is one of the greatest challenges that humanity is facing today, causing extreme weather and climate catastrophes such as rising sea levels, melting glaciers, more frequent and intense disasters, and loss of biodiversity etc. In view of the enormity of the adverse impacts of climate change, countries have reached an agreement to take urgent steps to limit the temperature rise below 1.5°C under the Paris Agreement in 2015. However, the recent IPCC Assessment Report (2023) has highlighted the unprecedented scale of the challenge required to keep warming to 1.5°C due to a continued increase in greenhouse gas emissions. The report underscores the need for education to galvanize urgent action by all the stakeholders, governments, civil society, businesses as well as the general public to address the global climate crisis and achieve sustainability.

The pace and scale of what has been done so far, and current plans, are insufficient to tackle climate change. Therefore, it has become critical to educate about the enormity of the climate crisis and to take meaningful action to address it on an urgent basis. This is also in line with Goals 13, 6 and many other goals of SDGs, India's New Education Policy 2020 and Mission LiFE of Government of India.

Education for climate action is critical because it can raise awareness and understanding of the causes, impacts, and solutions of climate change. Education can empower communities to take action, by providing them with the knowledge, skills, and motivation to reduce their carbon footprint thus promoting sustainable behaviour and lifestyles. To encourage collective action to address the global challenge of climate change, Mobius Foundation organized the 5th International Conference on Sustainability Education (ICSE) on 19th and 20th September 2023 at India Habitat Centre, New Delhi, on the theme, "Educating for Climate Action and Sustainability". The conference mainly focused on the need to engage the participants toward a shift from dialogue to action for sustainability and to catalyse the transition to build the knowledge, skill and attitude needed to drive meaningful transformation towards climate action and sustainability. Previous 4 versions of ICSE have already created an active platform for networking and partnership. The ICSE has now become a crucial gathering for sustainability educators and professionals across the globe. The 5th ICSE was further structured upon and consolidated based on the experience and strength of the network to meaningfully deliberate on the educational imperative of climate change and sustainability.

Objectives

The overall objective of the conference was to inspire positive and constructive dialogue among the participants by sharing knowledge, skills and practical examples to motivate them to initiate innovative climate action through various programmes and activities. This also included sharing experience and strategies, curriculum, pedagogy, policies, and programmes to foster leadership, advocacy and how education in both formal and non-formal settings can respond to climate crisis.

Following were some specific objectives of the conference:

1. To provide a platform for sharing good practices, ideas and examples related to climate action and sustainability through education and learning.
2. To highlight the importance of education as a powerful tool for promoting positive behavioural change to address climate change and sustainability challenges.
3. To empower and encourage youth to become climate and sustainability ambassadors, in their

communities and beyond.

4. To come up with a set of recommendations for joint projects/ ecopreneurs/ campaigns and actions for climate change and sustainability.

Participants & format of ICSE 2023

The 5th ICSE was organized on September 19 (Tuesday) & 20 (Wednesday), 2023 through hybrid mode between at the India Habitat Centre, New Delhi, India by Mobius Foundation in partnership with some of the key environmental organizations, UNESCO, UNEP, Centre for Environment Education (CEE), Foundation for Environmental Education (FEE, Copenhagen), The Climate Reality Project India, The Energy and Resource Institute (TERI), WWF India, TERRE Policy Centre etc.

The conference brought together around 750 participants physically (700 Indians + 50 Foreigners) and was joined by thousands virtually from across the globe representing multi-disciplinary and diverse group of stakeholders including: policy makers, teachers and educators, young professionals, representative of schools and education networks, youth, scientists and technical experts, as well as individuals from the private sector and civil society. The event was graced by eminent speakers/distinguished dignitaries via 8 plenary sessions including inauguration and closing ceremony. There were sessions for contributed papers and posters from diverse fields and professions. Presentations and discussions were organized in the form of panel interactions, working groups, workshops, symposia and round tables by ICSE partners through 15 parallel thematic sessions in two days. There was a special plenary for Youth4Earth campaign winners and young professionals. ICSE also showcases a special plenary on population stabilization as part of Mobius Foundation's year-long campaign 'VIRAM: Agenda Sustainability' with India Today Group. The Conference also facilitated display of exhibits, stalls, projects and practices by partners and delegates to showcase their work towards sustainability. There were ample opportunities for interactions, networking, developing linkages and partnerships during cultural evenings, open sessions, and poster presentations throughout the conference.

Outcome

The conference provided a unique opportunity for educators, policymakers, and other stakeholders to come together to share their experiences, knowledge, and best practices for educating youth about climate action and sustainability. This conference aimed to inspire and empower youth to act towards building a greener future.

PREFACE



Dr. Ram Boojh

Convener, ICSE 2023 & Advisor, Mobius Foundation, New Delhi, India

The 5th International Conference on Sustainability Education (ICSE), the flagship event of Mobius Foundation, took place on September 19 to 20, 2023, with a focus on “Educating for Climate Action and Sustainability”. This theme holds immense significance given the urgency of addressing climate change, a pressing challenge for humanity.

ICSE, initiated in 2019, received an overwhelming response, attracting participation from leading global environmental organizations, educators, and leaders. The subsequent editions of the conference were held virtually due to the pandemic which set a trend for continuing the discourse on diverse perspectives of sustainability education. The 4th ICSE in 2022 adopted a hybrid format, featuring both in-person and virtual participation, emphasizing the theme “Building Connections and Partnerships for a Sustainable Future” Looking ahead, the success of ICSE 2023 underscores our commitment to advancing sustainability education on a global scale. The ongoing support from all stakeholders, participants, and partners reaffirms our collective responsibility to address the complexities of climate change through education and collaborative action.

The present report provides a glimpse of the proceedings of the conference including keynote speeches, discussions, interventions, and insights from leading sustainability leaders and experts. We have tried to summarize the important reflections and perspectives shared by the participants in various panels and sessions providing a deep understanding of the issues, concerns and solutions for multifaceted theme of education for climate action and sustainability. Hopefully, this report will serve as an important resource and reference material for all those interested and involved in sustainability education initiatives and for inspiring meaningful action towards a sustainable and resilient future.

I extend my sincere gratitude to Mr. Pradip Burman, Chairman, Mobius Foundation, for his consistent and unwavering support to ICSE. The enthusiastic guidance and support provided by Mr. Kartikeya Sarabhai, Chairman of the Technical Advisory Committee (TAC), have been exceptionally valuable. My thanks to Mr. Praveen Garg, President, Mobius Foundation, for his valuable advice and support for the success of the conference. I greatly appreciate the valuable support of all the ICSE partners as well as my colleagues at the Mobius Foundation whose timely contribution has made this report possible.

SPECIAL MESSAGE



Mr. Pradip Burman

Chairman, Mobius Foundation, New Delhi, India

I wish to extend my gratitude to every one of you for your exceptional contributions that led to the successful completion of the 5th International Conference on Sustainability Education (ICSE) 2023, centered around the theme “Educating for Climate Action and Sustainability”.

Education has the power to shape attitudes and behaviours, equipping individuals with knowledge and skills to understand the impact of our actions on the planet. Through education, we can foster motivation to make sustainable choices and implement policies and practices that prioritize the health of our planet.

Your unwavering dedication and commitment to advancing the cause of sustainability through education have not gone unnoticed. The insightful discussions, profound perspectives, and innovative solutions shared during the conference have become invaluable assets in our collective effort to address the urgent issue of climate change.

I would like to express my sincere appreciation to our esteemed keynote speakers, panellists, policymakers, educators, researchers, youth and all stakeholders who played a crucial role in making this event a resounding success.

Reflecting on the enriching experience of ICSE 2023, let's seamlessly carry forward the momentum gained and continue our journey towards fostering a global culture that champions education for a sustainable future.

MESSAGE



Mr. Praveen Garg, IAS (Retd.)
President, Mobius Foundation, New Delhi, India

I am delighted to reflect on the success of the 5th Edition of the International Conference on Sustainability Education (ICSE), which continues our initiative to promote and strengthen Sustainability Education.

Over the course of two days, September 19th and 20th, 2023, the conference convened national & international organizations, government agencies, civil society, students, sustainability educators, leaders in a remarkable display of collective commitment.

Our focus on the theme 'Educating for Climate Action and Sustainability' underscores the imperative to guide participants toward a shift from dialogue to action for sustainability and to catalyze the transition to cultivating the knowledge, skills, and attitudes necessary to drive meaningful transformation towards climate action and sustainability.

The conference served as a dynamic platform for the exchange of knowledge, experiences, ideas and recommendations, featuring 100+ speakers across 9 plenaries, 20 thematic parallel sessions, and over 50+ paper and poster presentations, alongside inaugural and concluding plenaries.

Throughout the preceding four-year journey of the ICSE Conference on the Road to Sustainability Education, ICSE has established a distinct trend for discussion on diverse aspects of sustainability education among various stakeholders.

I extend my heartfelt gratitude to all participants for their invaluable contributions and eagerly anticipate continuing this conversation on Sustainability Education in the future.



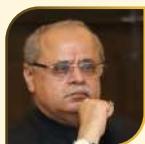
Dr. Jane Goodall,
Founder, The Jane Goodall Institute & UN Messenger of Peace

The ICSE conference plays a vital role in raising awareness, advocating for sustainability, and empowering society through education. Indeed, these conferences have been at the very forefront of stressing the need for education of this sort for protecting the planet.



Mr. Kartikeya Sarabhai
Founder & Director, Centre for Environmental Education (CEE), Ahmedabad, India

Education serves as a beacon to achieve ambitious goals and shape a sustainable future, yet the challenge in India lies in the insufficient allocation of resources specifically dedicated to research in the field.



Mr. Atul Bagai
Country Head, United Nations Environment Programme, UNEP-India Office, New Delhi

We are grappling with a triple planetary crisis encompassing climate, nature and pollution. I hope ICSE introduces an additional guiding principle of 'Prakriti Devo Bhava' into our lifestyles and mindset.



Dr. Rajendra Singh
Magsaysay Awardee, 'Waterman of India' & Chairman, People's World Commission on Drought and Flood

I wish and hope that this conference could be remembered as a pivotal moment, a driving force for transformation that yields concrete results to be put into action.



Dr. Anil Prakash Joshi
Founder, Himalayan Environmental Studies and Conservation
Organization (HESCO), Dehradun, Uttarakhand, India

Education is learning from the past, training for the present and a vision for the future, which are essential for harmonious coexistence with nature and sustainable development.



Dr. Ajay Mathur
Director General, International Solar Alliance (ISA), India

Our aim should align inquiry with action by bridging knowledge and policy to drive impactful change. Together we can work towards a sustainable future by propelling the global shift towards solar energy.



Prof. G.D. Sharma
President, Association of Indian Universities and Vice Chancellor,
University of Science & Technology, Meghalaya, India

I witness the palpable acceleration of climate change, it becomes increasingly apparent that our actions must mirror the urgency of this reality. Colleges and universities are now compelled to redouble their efforts, awakening rural communities to the imperative of sustainable practices.



Ms. Donna Goodman
Founder, Earth Child Institute, USA

The importance of water for life underscores the imperative of youth empowerment for global climate action, emphasizing that while the earth will naturally rejuvenate itself, it is we as humanity who must genuinely strive for a holistic way of coexisting.



Mr. Sam Barratt

Chief, Youth Education & Advocacy Unit, UNEP-Nairobi

We must connect the dots in this challenging moment in human history to ensure that we are not the last civilization but the one that reverses the clock and brings about positive change.



Dr. Erach Bharucha

Director, Bharati Vidyapeeth Institute of Environment Education and Research (BVIEER), Pune, India

I motivate everyone to embrace the evolution of nature-based education from theory to action, fostering a deeper connection with our environment through a holistic, interconnected, and experiential approach.



Mr. Leonard Sonnenschein,

President, Conservation for the Oceans Foundation, USA

Education illuminates the path towards climate change adaptation, revealing the intricate interconnections within our planetary cycles. Awareness sparks action, shaping our collective impact on land, sea, and sky.



Ms. Joyce Poan

Chief of Education, UNESCO, New Delhi, India

We need to find ways to appropriately support teachers and educators to ensure that Environment for Sustainable Development (ESD) and climate change education are incorporated into the curriculum, creating a natural linkage between the subjects they teach and the necessary climate change education.



Ms. Nandita Bajaj

Executive Director, Population Balance, US

Recognizing the reality of population denialism is essential for addressing the environmental and societal impacts of population growth. We must prioritize global support for family planning, empowering women to make informed choices and redirecting resources toward a sustainable future.



Ms. Iwona Gin

Head, European Projects, Nausicca, National Sea Experience Centre, France

The vastness of our oceans, resembling a blue marble, holds the key to our planet's survival. Through initiatives like the 'Youth for Ocean Forum,' young people are shaping a sustainable future for our oceans. Let us come together to amplify their voices and actions, ensuring a brighter tomorrow for generations to come.

Mr. Jadav Payeng



Environmentalist, Forest Man of India, Assam, India

Through dedication and action, we have the power to transform barren landscapes into thriving ecosystems while enhancing global education systems to impart practical environmental knowledge. This fosters a deep appreciation for Mother Earth and recognizes the vital role of women in conservation efforts.

Ms. Antonella Vassallo



Managing Director, International Ocean Institute HQ, University of Malta

I believe there is a need for sustainability education to encompass the vital role of oceans, recognizing their interconnectedness with Earth's biome, and emphasizing the importance of ocean literacy for a sustainable future.

Mr. Sunil Murlidhar Shastri



Consultant, Educator & Speaker, Ocean and Environmental Governance, U.K.

We must create a platform to manage the affairs of the ocean, fostering ocean literacy as our pathway to understanding, conservation, and responsible stewardship. Through education at all levels and engagement across society, we can nurture a culture of love and understanding for our oceans, ensuring a sustainable future for all.

Dr. Vinitaa Apte



Founder Director, TERRE Policy Centre, Pune, India

I express my commendation for the five successful iterations of ICSE, urging its expansion to communities and underscoring its potential as a catalyst for sustainable education through community engagement.



Dr. Vimal Katiyar

Professor & Dean, Research and Development, IIT Guwahati, India

Through interdisciplinary innovation and holistic thinking, we pave the path towards sustainable technology adoption. Let us shift our mindset from curiosity to impact driven research, ensuring a brighter, more sustainable future for all.



Ms. Poonam Muttreja

Executive Director, Population Foundation of India (PFI), New Delhi, India

I emphasize the importance of empowering women by providing them with education, access to family planning, and reproductive rights. Education, in particular, is highlighted as a key driver in delaying marriage and opening up opportunities for women, contributing to population stabilization.



Mr. Aditya Pundir

Director, The Climate Reality Project India & South Asia, New Delhi, India

Empowerment through sustainability education and green campuses is key, to fostering the leadership potential of our youth. The Youth for Earth campaign ignites hope, fueling the engine of positive change.



Dr. Arvind Anil Boaz, IFS (Retd.)

Former HoFF, Former D. G. SACEP / UNSASP Raipur, Chhattisgarh, India

Empowering communities with Nature-based Solutions requires bridging the gap between scientific jargon and local understanding, integrating traditional wisdom with modern approaches. Through local initiatives and knowledge sharing, we can align traditional skills with modern goals for sustainable change.



Mr. Richard McDonald

Presenter and Executive Director, R Futures Group, Switzerland

Actions speak louder than words, and small actions have the power to prompt reflection more effectively than mere wisdom.



Ms. Huma Masood

Senior Gender Specialist, UNESCO, New Delhi, India

Empowering women with knowledge and decision-making capabilities is crucial for ensuring their rights and addressing critical issues like population control.



Ms. Meena Raghunathan

Environment Educator, Author, Bengaluru, India

It is crucial to recognize the importance of integrating sustainability into the fabric of education, influencing how every subject is taught and learned. It involves cultivating a mindset that considers sustainability in every action and decision.



Ms. Gayatri Raghwa

Environment Education Expert, UNEP, New Delhi, India

The need of the hour for all of us as environment educators is not to work in silos but together. Let's showcase that India is a hub for remarkable environment-based projects, emphasizing the wealth of knowledge and inspiration available for all to learn from.



Ms. Prarthana Borah

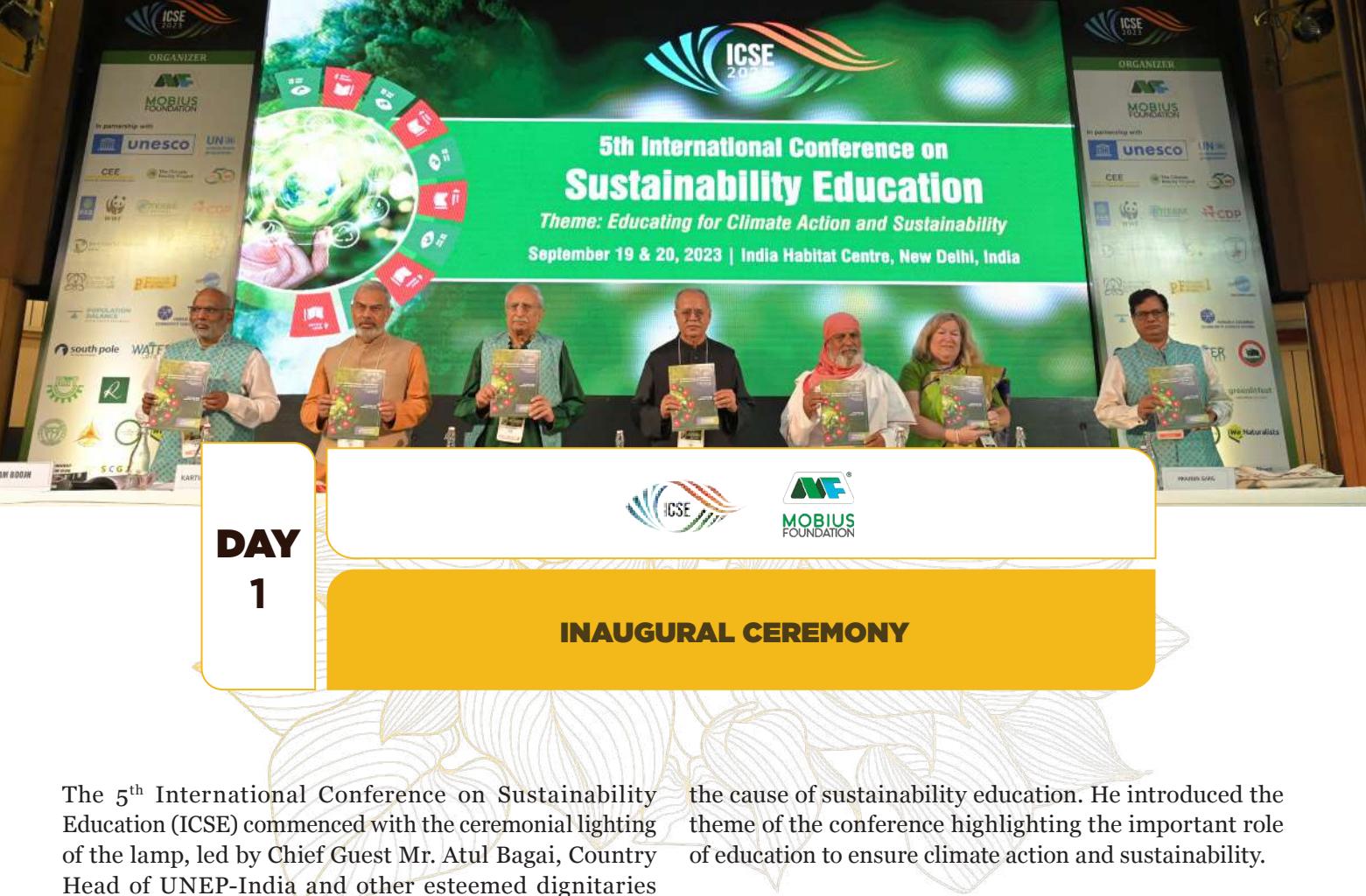
Director, Carbon Disclosure Project (CDP), Delhi

The importance of the private sector is underscored by its pivotal role in climate action and environmental stewardship. By addressing challenges and seizing climate opportunities, businesses can pave the way for a sustainable future, aligning climate action with business strategy.

DAY 1

19.09.2023

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Special Plenary: United Towards Sustainability - Launch of SASEANEE Connect	51



The 5th International Conference on Sustainability Education (ICSE) commenced with the ceremonial lighting of the lamp, led by Chief Guest Mr. Atul Bagai, Country Head of UNEP-India and other esteemed dignitaries including Mr. Pradip Burman, Chairman, Mobius Foundation, Mr. Kartikeya Sarabhai, Founder Director, CEE, Mr. Praveen Garg, President, Mobius Foundation, Dr. Ram Boojh, CEO, Mobius Foundation, Dr. Anil Prakash Joshi, Founder HESCO, and Ms. Donna Goodman, Founder Earth Child Institute, USA. Following the auspicious lamp lighting ceremony, students of Gyan Anant Vidyalaya (GAV) performed a welcome song.

Dr. Ram Boojh, welcomed the dignitaries and esteemed delegates. He highlighted that the 5th edition of ICSE marks a significant milestone in the field of sustainability education. Dr. Boojh also provided insights into the journey of ICSE since its inception in 2019, underscoring the conference's unwavering commitment to advancing

the cause of sustainability education. He introduced the theme of the conference highlighting the important role of education to ensure climate action and sustainability.

In her video message, **Dr. Jane Goodall**, Founder, The Jane Goodall Institute & UN Messenger of Peace mentioned that the 5th ICSE, centered around the theme 'Educating for Climate Action and Sustainability' is taking place at a crucial juncture. She added, "Education can play a really important role not only by creating awareness of the problem but by explaining what we can do to start turning things around." Dr. Goodall also underscored the vital role that ICSE is playing in raising awareness and helping people understand the importance of advocating for sustainability.

Dr. Rajendra Singh, Magsaysay Awardee, 'Waterman of India' & Chairman- People's World Commission on Drought and Flood in his video message extended his heartfelt congratulations to the entire Mobius foundation



family for orchestrating an outstanding sustainability conference aligned with the Paris Agreement. He expressed his deepest hope that this conference would be remembered as a pivotal moment, a driving force for transformation that yields concrete results to be put into action.

In his keynote address, **Mr. Kartikeya Sarabhai**, Founder Director, Centre for Environment Education (CEE), highlighted the evolution of climate change from being a theoretical concept that people perceived as affecting others, to a stark reality impacting individuals worldwide through events like floods, droughts, and forest fires. He also discussed the Prime Minister's goals for India to achieve a developed nation status by 2047, marking 100 years of Independence, and to become a net-zero country by 2070. Mr. Sarabhai emphasized the critical role of education, particularly in cultivating critical thinking skills, in meeting these targets.

Dr. Anil Prakash Joshi, Founder, Himalayan Environmental Studies and Conservation Organization (HESCO), in his special address provided a comprehensive overview of the Himalayan region's current state. He emphasized the imperative for a region-specific development strategy that integrates climate and ecological considerations into its framework. Dr. Joshi said, "Education is learning from past, train you for living in the present and is a liking for future." Furthermore, he highlighted that rural communities bear the brunt of climate change impacts, underscoring the importance of harmonious coexistence with nature, a wisdom deeply ingrained in India's traditional knowledge and scientific practices.

Ms. Donna Goodman, Founder, Earth Child Institute, USA, emphasized the critical significance of water as the fundamental source of life. She also addressed the pivotal role of youth on a global scale as catalysts for climate action. Ms. Goodman underscored the necessity of equipping and empowering future generations with the essential tools to lead vital initiatives. She remarked, "The Earth will naturally rejuvenate itself. It is us as humanity that must genuinely strive for a holistic way of coexisting."

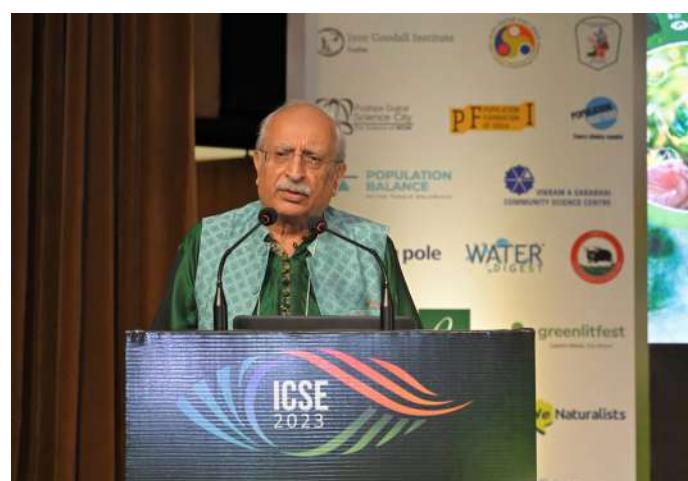
Mr. Praveen Garg, IAS (Retd.), President, Mobius Foundation, shared the intriguing origin story of the Mobius strip, which serves as the philosophical foundation of the Mobius Foundation. He explained that the Mobius strip, representing circularity and continuity, mirrors the inherent essence of nature. In his address, Mr. Garg spoke about the significance of quality education for sustainable development, aligning with SDG 4 and the National Education Policy 2020. He also advocated for the integration of concepts from the recently launched Mission LiFe by the Government of India into course

curricula. This initiative emphasizes mindfulness, prudent resource utilization, and the promotion of sustainable lifestyles. "To effectively address the challenge of climate change, it is imperative to inspire and engage the youth," he emphasized. Additionally, he highlighted the crucial role of training, motivating, and empowering teachers in delivering high-quality education to students.

Mr. Pradip Burman, Chairman, Mobius Foundation in his address remarked, "As we look back at the previous four conferences, we can proudly say that the conference has become a pivotal event in the realm of sustainability education." He added, "Sustainability education is not merely a topic of discussion, but a call for action." Mr. Burman also elaborated on Mobius Foundation's endeavours in forging a verdant and sustainable future. This is being achieved through initiatives focused on population stabilization, exemplified by projects like Project Aakar, Project Viram, and the 100 Schools Education Program.

Addressing the audience as Chief Guest, **Mr. Atul Bagai**, Country Head, UNEP, India, mentioned about the pivotal role of women in the forefront of sustainability education. He emphasized that we are grappling with a triple planetary crisis encompassing climate, nature, and pollution. Furthermore, Mr. Bagai **pointed out** that recent studies indicate that we have already exceeded six out of the nine critical tipping points. He expressed the hope that the conference would introduce an additional guiding principle into our lifestyles and mindset: 'Prakriti Devo Bhava', signifying reverence for nature.

The souvenir volumes were officially unveiled by the dignitaries present on the stage. Subsequently, Dr. Ram Boojh expressed his gratitude in a vote of thanks. He extended heartfelt thanks to all the participants, esteemed dignitaries, and special guests for their invaluable contribution to the conference. Following the vote of thanks, mementoes were presented to the dignitaries.





DAY
1



OPENING PLENARY

The tone for the two-day conference was set in this session. The session was chaired by Mr. Kartikeya Sarabhai, Founder Director, CEE, Ahmedabad, India.

fact—is generated by oceanic phytoplankton. Ms. Vassallo expressed the necessity for sustainability education to encompass all facets of the planet's biome, asserting that it is no longer justifiable to treat the different parts of land and oceans as separate entities.

Speakers

- Ms. Antonella Vassallo, Managing Director, International Ocean Institute, University of Malta
- Dr. Dipankar Saharia, Regional Senior Director, Centres at TERI
- Dr. Ajay Mathur, Director General, International Solar Alliance (ISA)-video message
- Ms. Joyce Poan, Chief of Education, UNESCO, New Delhi, India
- Mr. Sam Barratt, Chief of Youth, Education & Advocacy Unit, UNEP, Nairobi, Kenya

Moderator

Dr. Ram Boojh, CEO, Mobius Foundation

Summary of the Discussions and Presentations

Ms. Antonella Vassallo brought a unique perspective on sustainability education, emphasizing the vital role of oceans. Highlighting the longstanding commitment of the International Ocean Institute since 1972, she stressed their dedication to promoting the sustainable utilization of Earth's resources, particularly those of the planet's oceans. Ms. Vassallo specified that the primary focus of the International Ocean Institute at the 5th ICSE would be ocean literacy. She further emphasized that when contemplating the oceans, it is crucial to acknowledge that a significant portion of the planet's oxygen—50%, in

Dr. Dipankar Saharia, hailing from Assam, highlighted the global vulnerability of the north-eastern region of India as a hotspot for disasters. He underscored that heightened pressure on the hills has led to a surge in extreme events. Dr. Saharia pointed out that TERI has been actively engaged in addressing climate change since the 1980s. To tackle the challenges associated with climate change, he stressed the need for global action and the strengthening of education systems. This, he emphasized, should extend beyond formal education to encompass informal education as well. Furthermore, he detailed various environmental projects undertaken by TERI, including the 'Green Olympiad' program designed for school children. This initiative aims to raise awareness about the environment and promote sustainable development.

Dr. Ajay Mathur, highlighted the International Solar Alliance's (ISA) commitment to establishing solar energy as the preferred energy source in all member countries. Speaking to the audience, he drew attention to a significant challenge: the disparity between the discourse where information is generated and where it is utilized for policy decisions. Dr. Mathur stressed the crucial need to bridge the gap between the logic of inquiry and the logic of policy action, urging everyone to address this disparity.

Ms. Joyce Poan, further pointed out that, according to UNESCO's review in 2021, nearly 40% of national curriculum frameworks in a hundred countries made

no reference to climate change. As a U.N. agency with an interdisciplinary mandate covering education, natural and social sciences, UNESCO has been actively involved in global initiatives to promote sustainability and climate change education. Highlighting the crucial role of teachers in disseminating climate change education, she stated, “We need to find ways to appropriately support teachers and educators to ensure that Education for Sustainable Development (ESD) and climate change education are incorporated into the curriculum. This way, there is a natural linkage between the subjects they teach and the needed climate change education.” Ms. Joyce also mentioned about the ‘State of the Education Report for India 2023,’ a collaborative effort between UNESCO, New Delhi office, CEE, Mobius Foundation, and UNICEF. This report serves as a tangible contribution from UNESCO and its partners towards addressing climate change and promoting sustainability in education.

According to **Mr. Sam Barratt**, there are three crucial changes that must be implemented. Firstly, the young people serve as a powerful catalyst for transforming the current education system into one that aligns with our needs. Secondly, the importance of significant investments in STEM education for girls. Lastly, he emphasized

the necessity of thinking beyond traditional classroom settings. Mr. Barratt stated the significance of government prioritizing environmental education on their agenda. He also urged for a holistic approach in navigating the complexities of the current human era. He said, “We must connect the dots in this challenging moment in human history to ensure that we are not the last civilization but the one that reverses the clock and brings about positive change.”

Mr. Kartikeya Sarabhai contributed to the conversation by noting, “We are among the select countries where environmental education is a mandatory component at every formal education level.” He acknowledged the improvement in textbooks over time and observed a heightened environmental awareness among the younger generation. However, he pointed out the challenge in India lies in the insufficient allocation of resources specifically dedicated to research in the field.

Dr. Ram Boojh, further commented that India stands out in grassroots innovations, stating, “Our education system somehow redirects itself towards the profound roots embedded in our society.”



5th International Conference on Sustainability Education

Theme: *Education for Climate Action and Sustainability*

September 19 & 20, 2023 | India Habitat Centre, Delhi, India



Thematic Session

1



PRIVATE SECTOR ENGAGEMENT IN CLIMATE ACTION

Background

Climate change poses one of the greatest challenges of our time, requiring collective efforts from all sectors of society to combat its impact. The private sector, as a key driver of global economic activity, plays a crucial role in addressing climate change. This concept note outlines a proposal for the session titled "Private Sector Engagement in Climate Change" to be organized by CDP India at the International Conference on Sustainable Education.

CDP is a leading international organization that drives companies and governments toward Environmental disclosure. With a vast network of over 9,600 companies worldwide, CDP encourages corporate transparency and accountability in environmental management.

Objectives

- Raise Awareness:** Enhance participants' understanding of the importance of private sector engagement in climate change mitigation and adaptation efforts.
- Share Best Practices:** Showcase successful case studies and initiatives taken by various private sector entities to address climate change challenges.
- Facilitate Collaboration:** Foster partnerships and collaborations between the private sector, civil society, and governments to accelerate climate action.
- Promote Sustainable Education:** Emphasize the role of education in empowering the private sector to integrate climate-conscious practices into their operations.

Moderator

Ms. Prarthana Borah, Director, CDP (Carbon Disclosure Project)

Speakers

- Mr. Ashu Kalra, Vice President & Head of Global Corporate Real Estate & Environment Sustainability, EXL Services, India
- Mr. Ajay Pillai, Partner, Risk Advisory, Deloitte-India
- Mr. Santhosh Jayaram, Global Head- Sustainability, HCL Technologies
- Mr. K.K. Sharma, Whole Time Director, EHS, DCM Shriram Ltd.

Summary of Presentations and Discussions

Ms. Prarthana Borah spoke about the close collaboration between CDP and the private sector, outlining the purpose of the session dedicated to discussing the vital role of private businesses in addressing climate action and broader environmental concerns. The session aimed to provide the partners of CDP, India allowing them to share insights about the challenges they face in addressing climate issues as well as taking ahead the climate opportunity. As per the disclosure report of 125 companies released by CDP in 2022, the estimated opportunity was approximately USD 30 billion. "We see a strong presence of private sector in the Global conventions and this session is an opportunity for us to talk about how climate is essentially becoming a very important factor in business strategy," Ms. Borah added. Following this introduction, she warmly welcomed expert speakers and posed question on **"How each expert looks at climate within their business strategy?"**

Mr. Santhosh Jayaram, representing an IT-focused perspective, highlighted the dual dimensions of the strategic landscape, emphasizing both internal and external considerations and the interplay between risk and

opportunity. From a risk perspective, he underscored that IT companies face physical risks, such as those associated with office locations, impacting employee health and productivity. Transition risks arise from operating in sectors vulnerable to climate impact, posing challenges related to regulatory compliance and declining sectors. The evolving landscape necessitates a swift transition to Net Zero, with clients increasingly integrating climate commitments into business agreements. On the opportunity side, the convergence of digitalization and the shift to a net-zero economy presents significant prospects. Digitalization, particularly in product design and sustainability efforts, offers opportunities for efficient carbon reduction. However, Mr. Jayaram cautioned that the energy consumption of digitalization, including AI, ML, ubiquitous computing or indefinite data storage, requires sustainability measures. He emphasized the importance of integrating sustainability into digitalization efforts to avoid adverse environmental impacts. Overall, their strategic direction focuses on “act”, “pact” and “impact” combining internal efficiency improvements with collaboration in industry initiatives and partnerships with stakeholders, while considering the environmental implications of digitalization.

efforts focused on extracting value-added products from brine sludge. Mr. Sharma highlighted the challenges and opportunities in carbon neutrality for the chemical sector, discussing ongoing efforts in waste recovery, electrification, and efficient resource utilization. The company's sustainability journey includes reporting to CDP, internal goal benchmarks, and a focused approach to diversity and inclusion, contributing to its overarching ESG goals. Additionally, community awareness programs align with national initiatives for substantial GHG emission reduction.



Mr. K.K. Sharma, provided insights into DCM Shriram Ltd.'s sustainable initiatives across its three verticals: agri-rural, chlor alkali, and value-added products. With a commitment to circular economy principles dating back 50 years, the company strategically aligns its processes to minimize waste and optimize resource use. The integration of byproducts, such as utilizing brine sludge for value-added products, reflects a holistic approach to sustainability. Emphasis is placed on green energy adoption, including biomass utilization in energy mix and initiatives like carbon capture and utilization in cement production. The company is actively working toward zero waste to landfill, with research and development

Mr. Ashu Kalra, emphasized the crucial connection between education for climate action and sustainability. He highlighted the relevance of environmental concerns since the first World Environment Day in 1973, urging reflection on the persistence of these issues over 50 years. Mr. Kalra underscored the need for increased awareness and communication about sustainability, particularly with the younger generation. Discussing risks and opportunities, Mr. Kalra identified talent as the primary risk in IT organizations, followed by information security concerns. Notably, he positioned climate change as the third major risk, citing reports from reputed institutions like the World Economic Forum. From an opportunity perspective, he emphasized the potential for organizations to attract eco-conscious clients by investing in and showcasing their commitment to climate action. This, he believes, opens up significant opportunities, especially in markets like the UK, Europe, and the USA, where clients are increasingly seeking partnerships with environmentally responsible organizations.

Ms. Prarthana Borah directed a different question to Mr. Ajay Pillai asking him **“What aspects are companies currently focusing on, and what priorities do you emphasize in light of insights provided by our three panelists?”**

Mr. Ajay Pillai, emphasized the pivotal role of the private sector in India's journey towards achieving Net Zero by 2070. Unlike some other regions where regulatory mandates drive climate actions, in India, the impetus comes from clients, for example those in European supply chains, demanding sustainability measures. Additionally, companies voluntarily adopt higher standards, aligning with corporate visions to address climate concerns. Financing requirements from agencies with specific standards further drive companies to meet sustainability criteria. While the consumer market in India is not a primary driver, discussions on climate-related topics have become integral in boardrooms, reflecting a growing awareness. Mr. Pillai highlighted the diverse approaches to formulating climate strategies, emphasizing the need for practical, economically viable plans based on quantifiable data. Strategies should align with existing business models and integrate sustainability seamlessly. Queries often revolve around implementing strategies post-commitment, and companies seek ways to improve carbon disclosures and scores, with an increasing focus on transparent reporting and monitoring as key components of effective climate strategies.



Ms. Prarthana Borah then asked Mr. Santhosh Jayaram, **“How do you navigate the processes involved in climate action within your organization, and what strategies do you employ to ensure widespread awareness and engagement with external stakeholders regarding your initiatives?”**

Mr. Santhosh Jayaram, provided a detailed account of the challenges and initiatives undertaken by his organization, HCL Technologies, shedding light on the complexities of meeting Net Zero commitments within the framework of stringent regulatory amendments in India. The urgency for employee engagement surfaced as they observed a significant shift in emission profiles

due to the widespread adoption of work-from-home practices. To address this, HCL Technologies launched a pioneering initiative called the 'Sustainability School' for employees, a comprehensive training program offering courses in multiple waves. The courses covered climate change science, impact assessment, and role-specific contributions, with a strategic approach to increase awareness and understanding among the diverse workforce.

The training modules were strategically rolled out in waves, starting with the science and impact of climate change, followed by sessions on measuring and reducing carbon footprints at personal and organizational levels. The third wave focused on role-based modules tailored to various functions within the company. This multifaceted training approach aimed to equip employees with the knowledge and tools needed to actively contribute to the organization's climate action goals.

The success of the initiative was evident in the substantial engagement, with employees collectively investing over 20,000 hours in training. The impact reached beyond internal objectives, transforming employees into agents of change within their respective spheres of influence. Notably, even board members expressed interest in participating in the courses, highlighting the initiative's broader influence. The positive outcomes extended to increased employee-driven innovation, as reflected in a rise in suggestions and solution ideas related to climate change. In essence, the organization's journey toward climate consciousness was marked by strategic employee engagement and a growing commitment to sustainable practices across all levels of the company.

Adding to Mr Santhosh's views, Ms Borah stated the growing significance of leadership roles in private sector companies, citing data that reveals nearly 90 percent of disclosing companies exhibit board-level engagement in climate initiatives. Emphasizing the positive impact of top-down leadership, she referenced Mr. Santhosh's insights on starting with measurement and evolving into an extensive employee engagement program. Beyond this, she stressed the need to address the traditional association of the private sector with corporate social responsibility (CSR). Ms Borah further posed a question to Mr. K.K. Sharma, asking him **“How your engagement has been in terms of CSR programs?”**

Mr. K.K Sharma provided a comprehensive overview of DCM Shriram Ltd. initiatives in the agricultural sector, emphasizing a holistic approach to sustainability. The organization's involvement in the sugar business, coupled with the development of resilient seeds, underscores a commitment to enhancing both farmer income and overall productivity. Notably, programs like Mitha Sona, involving

over 2.5 lakh participating farmers, are instrumental in promoting awareness of sound agricultural practices. The Agri Water Award serves as a testament to the company's encouragement of entrepreneurial contributions for positive change. The strategic restoration of water ponds and wetlands, resulting in the conservation of 900 billion litres of water over seven years, demonstrates a dedication to water resource management. Furthermore, extensive tree plantations, collaborations with entities like Bhumitra for carbon credits, and initiatives promoting smart agricultural practices exemplify a multifaceted approach to environmental sustainability. The company's vertical, Sriram Farm Solution, contributes to this mission by providing nutrient solutions that not only boost productivity but also reduce resource consumption, aligning with their commitment to farmer welfare and sustainable agriculture.

Ms. Prarthana Borah steered the discussion towards the technical aspects of climate action, emphasizing the importance of emissions reduction and achieving Net Zero targets. She asked Mr. Ashu Kalra, **“How do companies, particularly in terms of emission reductions and achieving Net Zero goals, engage in and address the technical aspects of these endeavours? Can you provide insights into the specific strategies and technical measures that organizations adopt in pursuit of their climate targets?”**

Mr. Ashu Kalra, provided insights into the intricate processes involved in climate action, emphasizing the crucial step of data collection and measurement of carbon footprints across three scopes. He explained the distinction between internal and external organizational boundaries and underscored the engagement with the Science-Based Target Initiative (SBTI) for goal-setting, citing their specific interim targets. The discussion delved into their strides in adopting green and renewable energy, with a focus on achieving a remarkable 22% of green energy in EXL Services' portfolio. Mr. Kalra shed light on the challenges associated with scope 3 emissions, particularly in the context of the evolving work landscape and remote operations. He highlighted the complexities of addressing emissions related to employee transport, proposing innovative solutions such as electric vehicles (EVs) and bio CNG, while stressing the collaborative effort required across industries to effectively manage scope 3 emissions, especially in areas like air travel.

In guiding companies initiating their sustainability journey, Ms. Prarthana Borah asked Mr. Ajay Pillai **“Given that numerous companies seek your guidance to embark on their sustainability journey, what key steps or strategies do you suggest for such companies?”**

Mr. Ajay Pillai, in advising startups and new companies venturing into sustainability emphasized the paramount importance of focusing on governance initially, particularly on the ESG front, where governance plays a significant role. He advised companies to assess their climate-focused risk appetite, understanding their capacity to address climate risks within their business. Identifying short-term, near-term, and long-term sustainability goals is crucial, allowing companies to align their intentions with actionable plans. Mr. Pillai underscored the need for a clear roadmap, emphasizing that voluntary commitments enable companies to choose their trajectory. He further stressed on the importance of physical risk assessments, especially for businesses considering expansion or venturing into new areas, highlighting the relevance of understanding future climate scenarios for these locations. Lastly, he underscored the significance of ensuring that the sustainability intent permeates throughout the organization, reaching all stakeholders, from top management to employees on the ground, fostering a collective commitment to sustainability.

The floor was opened to the audience for discussions.



Question 1: How do you manage the substantial financial investments and long-term targets associated with climate change initiatives in the context of your internal business, commercial, and profitability objectives? Given the considerable funding required for various initiatives spanning production and the supply chain, what strategies do you employ to balance immediate business goals with the imperative of a long-term perspective for impactful climate action?

Answer: Mr. Kalra highlighted that for small and medium-scale enterprises (SMEs), particularly in the IT sector in India, many climate initiatives have favourable cost-benefit

outcomes. He emphasized that, especially in the realm of renewables, the payback is often better than keeping money in the bank. While cost-benefit considerations are crucial, he underscored the importance of driving the journey towards sustainability with a focus on sensitivity rather than just the financial aspect. Nearly 50 percent of the sustainability journey can be accomplished through cost-benefit analyses. Mr. Sharma shared his experience of engaging with MSME partners, emphasizing the significance of creating awareness and initiating a dialogue to understand and inspire sustainable practices among stakeholders, emphasizing the collaborative aspect of the journey. Ms Borah further emphasized that finance or economics is not a significant barrier for companies to adopt sustainability initiatives, but the major challenge is capacity building. She stated that many companies face difficulties in estimating or assessing emissions at a detailed level within their supply chains. To address this issue, there is a focus on incorporating capacity-building components into the overall process. The mention of capacity building also implies an acknowledgment that investing in building the necessary skills and capabilities might incur costs but is crucial for advancing sustainability efforts.

Question 2: We are a company working to specialize in converting biomass into biogas and hydrogen with Plug and Play solutions. How startups like ours can leverage platforms to overcome obstacles and gain wider acceptance for our plug-and-play solutions?

Answer: The corporations, including PSUs, are open to collaborating with confident startups, not only in the realm of biogas but also in various sustainable initiatives. The private sectors are more inclined toward in-house R&D and exploration adds a different dimension, and there is a need of diversifying renewable sources beyond solar. Finding a place in the market is a matter of time and persistence.

Question 3: How do consultancies navigate the challenge of integrating diverse sustainability initiatives such as CSR, nature-based climate solutions, climate capture, storage, and utilization technologies, along with employee engagement, into a cohesive sustainability reporting framework? Given the existing reporting formats and frameworks, what strategies or approaches do consultancies recommend to effectively marry these various elements in reporting, aiming for better scoring and addressing the significant gaps observed in the reporting landscape, especially in sectors that are actively engaging in sustainability initiatives?

Answer: The significance of governance in driving sustainability reporting within companies. Mr. Sharma acknowledged the challenges and highlighted the company's journey over the past five years, including participation in forums like DJSI, Ecoveritas, and CDP. The approach involved creating internal awareness and compiling data from various functions. The reporting exercises are not just challenges but also opportunities to deepen understanding and improve sustainability practices. The underlying message is that strong leadership and a proactive approach to reporting contribute to a company's sustainability journey.



Outcomes

- **Enhanced Private Sector Awareness:** The session succeeded in raising awareness among participants about the pivotal role of the private sector in climate change mitigation and adaptation efforts, emphasizing its importance in the global climate action agenda.
- **Showcased Successful Initiatives:** Various private sector entities presented successful case studies, sharing valuable insights and best practices that highlighted effective strategies for addressing climate change challenges.
- **Fostered Collaboration:** The session facilitated collaboration by fostering partnerships between the private sector, civil society, and governments, emphasizing the need for collective efforts to accelerate climate action.
- **Emphasized Role of Education:** The importance of education in empowering the private sector to integrate climate-conscious practices into their operations was underscored, emphasizing its role in sustainable business strategies.
- **Informed Decision-Making:** Expert speakers provided practical insights and perspectives on integrating climate considerations into business strategy, enabling participants to make informed decisions regarding climate-related risks and opportunities.

Recommendations

- **Integrate ESG Governance:** Companies should prioritize the integration of robust Environmental, Social, and Governance (ESG) governance structures at the leadership level to drive and oversee climate action initiatives effectively.
- **Facilitate Startups through Platforms:** Establish platforms or networks that specifically support startups specializing in climate solutions, providing them with resources, mentorship, and opportunities to enhance acceptance and market penetration.
- **Streamline Reporting Frameworks:** Consultancies should advocate for standardized reporting frameworks that seamlessly integrate diverse sustainability initiatives, such as CSR, nature-based solutions, and climate capture technologies, to ensure comprehensive and cohesive reporting.
- **Empower Workforce through Education:** Encourage companies to invest in comprehensive employee education programs to enhance workforce understanding and engagement with climate initiatives.
- **Set Practical, Measurable Goals:** Companies embarking on sustainability journeys should set clear, practical, and measurable goals aligned with existing business models, ensuring a gradual but impactful transition towards climate-conscious practices.





Thematic Session

2



BUILDING A MULTI-COUNTRY CIVIL SOCIETY PARTNERSHIP TO INCREASE THE RESILIENCE OF COASTAL POPULATION IN SOUTH ASIA

Background

The aim of the event is to focus on the coastal communities, who are struggling for their livelihood generation and for that unintentionally harming the local eco-system. Considering the factors such as geographical & climatic condition, income generation sources and availability of resources such as manpower, land, natural resources, etc., the implementation of the relevant project through community involvement for livelihood generation is feasible. Along with this, it is utmost important to understand the importance of the ocean. The life of the coastal communities and their livelihood activities largely depends on the ocean. Learning about the ocean is important as it helps us to understand how we are affected by the changes in the Earth's environment. Understand the vast ocean especially by the local communities will aid income generation and facilitate sustainable living. The discussion highlights the importance of knowledge and the implementation by the local communities to lead a healthy environment and sustainable life.

Objectives

- Highlight the need for ocean literacy among the local communities
- Addressing the need for cumulative conservation plan.
- To help people develop a connection with the planet beyond land

Moderator

Dr. Vinita Apte, Founder Director, TERRE Policy Centre

Speakers

- Chair: Mr. Leonard Sonnenschein, President, Conservation for the Ocean Foundation
- Ms. Antonella Vassallo, Managing Director, International Ocean Institute
- Mr. Sunil Murlidhar Shastri, Consultant, Educator, & Speaker, Ocean and Environmental Governance
- Mr. Kanna K. Siripurapu, Sr. Fellow, SaciWATERs

Summary of the Presentations and Discussions:

Dr. Vinita Apte welcomed all the participants for a session focusing on the ocean, biodiversity, ocean literacy, mangroves and carbon sequestration. She expressed her gratitude to Mr. Pradip Burman, Chairman, Mobiust Foundation and Mr. Praveen Garg, President, Mobiust Foundation for the partnership. Welcoming the panelist present physically and virtually she introduced them to the audience and requested the panel to commence the session.

Mr. Leonard Sonnenschein chaired the session and, in his address highlighted the current scenario of ocean through a video, showing how the human activities are affecting the ocean and its biodiversity. Stating that 40% of the coastal waters are no longer fishable or swimmable, he highlighted the current status of obliteration and how in turn this is affecting the human population living near the ocean or far. He quoted that “a thousand-mile journey starts with the first step” and how ocean science leads to coastal protection interlinking the entire chain. He discussed the initiatives taken up by ‘The Sonnenschein Institute’ such as restoration of coral reefs, stimulation of fisheries, restoration of riparian ecosystems, stimulation of

organic practices for agricultural production, aquaculture, land remediation, oil spill remediation, ocean restoration and many more. These initiatives create education among the people and aid in conservation.



Ms. Antonella Vassallo in her presentation spoke about the need of ocean literacy and education for sustainable development. She presented the activities of the Ocean Academy which was developed by the International Ocean Institute, with an intention to improve global ocean literacy. She emphasized on making the learnings very easy to follow, register and to make it relatable. With the motto to create knowledgeable ocean leaders, Ms. Antonella urged to focus on trainings and capacity development for the people who are ocean professionals in their early to mid-career. Explaining about Ocean Literacy she quoted that "Ocean Literacy means to understand ocean influence on you and most importantly your influence on the ocean. Ms. Antonella believes that an ocean literate person understands the essential principles and fundamental concepts about how the ocean works and hence is able to make informed and responsible decisions concerning their actions, knowing how this will impact the ocean and the human race at large. She expressed the need of educating the future policy makers as they will be in the position of decision making after few years. Hence, the gap can be filled by educating the older generation who are currently the policy makers as it is necessary to protect the ocean 'now', on which the very health of the planet and all of us depend. Making an effort to reach to the maximum public with no age limit or educational & language boundaries and to make education easily accessible and relatable, International Ocean Institute has started Ocean Literacy Course, which is online and free of charges.

Mr. Sunil Murlidhar Shastri further strengthened Ms. Antonella's idea and explained about the opportunities for Ocean Literacy and the Ocean Academy India. He began

by quoting his mentor Elisabeth Mann Borgese "There is a need to create an Ocean Mafia to manage better the affairs of the Ocean" and mentioned that the Ocean Culture dates back in the 80s. Explaining the importance of ocean he explained the seven principles of ocean literacy in accordance to UNESCO. According to Mr. Shastri, ocean literacy is based on the seven pillars namely, Science and Technology, Geopolitical Economy, Institutions and Organizations, Legislation and Implementation, Role of Civil Society, Financial Initiatives, and Education and Awareness. Speaking about the way to take ocean literacy forward, he emphasized on having no age limit for learning, involving amateur enthusiast, formal & informal education, training the professionals and educating the policy makers. Mr. Shastri believes that creating a more responsible civil society, inculcating ocean culture in the psyche of all the concerned, educating the practitioners, community & voluntary efforts to raise public awareness and general training in the area of ocean governance are the purposes of ocean literacy. The key is to do serious things in a fun way. Linking literacy and conservation, he quoted Senegalese Forestry Engineer Baba Dioum "In the end we will conserve only what we love. We will love only what we understand. And we will understand only what we are taught". Mr. Shastri highlighted the tenets of IOI Ocean Academy India program. Explaining the expansion plans, Mr. Shastri announced to deliver more programmes annually, to reach different strata of society, the course will be developed in more regional languages and the scouting for regional experts will be in process. Tailor-made and innovative programmes for business executives and policy makers, showcasing the links between the coastal regions and the hinterland. Summing up the session he quoted "It's not the end of the problem, but the solutions must begin somewhere".

Mr. Kanna Siripurapu highlighted the impact of the ocean on the land in absence of the mangroves. Sharing the story from the ground of the people he emphasized the need of educating the right people in right place, at



right time. Through the story of the Sundar Island and the Satabhaya villagers he highlighted the psychological impact, which is invisible as compared to the physical impact, which is visible and much talked about. He urged the educators to focus on the story of mangroves, people living there, the ocean they are associated with and how all this impacts the mental health of the people and what education can actually address these things in practicality. Presenting facts, he mentioned that 16 villages of the Kendrapara District has gone under the sea and such submergence of island leads to migration of the population. He quoted that such migrations are happening way before we started talking about Climate Change. Emphasizing on distress migration which is happening due to destruction of the livelihood of the population, he believes on addressing these issues through educating the population on protection and conservation of the ecosystems before it gets destroyed.



Outcomes

- Establishment of Inclusive Ocean Literacy Programs:** The session led to a commitment to establishing inclusive ocean literacy programs that cater to individuals of all age groups and educational backgrounds.
- Expansion of Online and Accessible Ocean Education Initiatives:** The recognition of the success of the International Ocean Institute's Ocean Literacy Course prompted a call for similar initiatives. It involves encouraging the expansion of online, free-of-charge ocean education programs that are accessible to a wide audience, irrespective of age, education level, or language barriers.
- Implementation of Storytelling for Environmental Impact:** The session highlighted the power of storytelling in conveying the psychological and physical impacts of ocean-related changes, especially in coastal communities.

- Emphasis on Urgency and Real-World Impact:** The session resulted in a heightened emphasis on the urgency of addressing issues affecting coastal populations and the ocean. Real-world impacts, such as the degradation of coastal waters and its consequences for both marine life and human populations, were underscored.

Recommendations

- Promote Inclusive Ocean Literacy:** Advocate for inclusive ocean literacy programs that cater to individuals of all age groups and educational backgrounds. Inclusive education ensures that people from diverse demographics have the opportunity to understand the ocean's influence on their lives and vice versa, fostering a more informed and responsible society.
- Enhance Accessibility to Ocean Education:** Encourage initiatives, similar to the Ocean Literacy Course by the International Ocean Institute, that provide online and free-of-charge ocean education accessible to a wide audience. Making ocean education easily accessible, irrespective of age, education level, or language barriers, contributes to building a knowledgeable and environmentally conscious global community.
- Integrate Ocean Literacy into Policies:** Advocate for the integration of ocean literacy programs into educational curricula for policymakers and government officials. Educating policymakers is essential for effective decision-making. Integrating ocean literacy into policy education ensures that current decision-makers and future leaders are well-informed about the importance of ocean conservation.
- Focus on Storytelling for Environmental Impact:** Emphasize storytelling and real-life examples to convey the psychological and physical impacts of ocean-related changes, especially in coastal communities. Storytelling is a powerful tool to convey the importance of protecting ecosystems and the livelihoods of coastal populations. It helps bridge the gap between scientific knowledge and practical understanding, fostering a deeper connection with ocean conservation efforts.



5th International Conference on Sustainability Education

Theme: Education for Climate Action and Sustainability

September 2023, International Ind. Habitat Centre, New Delhi



Thematic Session

3



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Centre for Environment Education

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INTEGRATING CLIMATE CHANGE IN EDUCATION SYSTEMS

Background

Climate change is recognized as a critical global and national challenge by the Government of India. To address this challenge, various initiatives at both the central and state levels are contributing to collective efforts against climate change and the promotion of sustainable practices across different sectors. There is a growing need also for locally-driven actions that involve local stakeholders, authorities, governments, and communities. One effective approach to engage all stakeholders and communities in understanding and taking the right decisions and climate actions is through promoting education on climate change, following the age-old environmental education principle of "catch them young".

Climate Change Education is gaining global recognition as an essential tool to facilitate locally-driven climate actions and empower the younger generation to effectively address the looming climate crisis. Educating school children about climate change is a crucial component of fostering such local initiatives by imparting knowledge, skills, and capacities.

India's new National Education Policy (NEP) for 2020 underscores the incorporation of climate change as a primary focus within environmental education. It also rightly emphasizes experiential learning, multidisciplinary education, and the promotion of critical thinking to address the challenges of our evolving world. Since environmental education is a mandatory subject in India's formal education system, integrating climate change education into it could significantly contribute to this objective (CEE, 2023).

Education on climate change needs to be integrated with

various aspects of education systems – in curriculum, co-curricular activities, school governance, operations and facilities, teachers' training, teaching resources, larger school community and local community, and the overall education systems' capacity. The Greening Education Partnership (GEP), launched at the UN Transforming Education Summit in September 2022 also highlights the importance of greening education for addressing climate change through its four pillars – Greening Schools, Greening Curriculum, Greening Teacher Training and Education Systems Capacity and Greening Communities. This session aimed to capture the various initiatives on climate change education in India and globally on aspects like policies, practices, and building knowledge, skills, and systems capacity as well as challenges and opportunities across the gamut of the education landscape, as vast as that of India. This was deliberated from the perspectives of different stakeholders who were invited as speakers – policymakers, education sector experts, climate experts, multi-lateral organizations, civil society organizations, teachers, and youths.

Objectives

- Present various aspects and approaches to integrate climate change education in educational systems – curriculum, schools, teacher training, education system's capacity (teaching aids, resources) and taking climate education and action from school to community.
- Share some of the key national, sub-national, and local initiatives happening on climate change education (curriculum integration, inside and outside classroom transactions, effective pedagogies, teachers training, programmatic implementation of such initiatives and

schemes engaging students, teachers, whole schools and community).

- Discuss the opportunities and challenges of climate change education and recommendations of the UNESCO State of the Education Report for India 2023 on Education to Address Climate Change.
- Discuss the Greening Education Partnership framework and explore synergies for taking it forward in India.

Moderators

- Ms. Joyce Poan, Chief of Education, UNESCO, New Delhi, India
- Dr. Shweta Purohit, Programme Director (Climate Change), CEE

Speakers

- Ms. Tushita Rawat, Programme Manager, Envt. Edu., Centre for Science and Environment (CSE), Delhi
- Ms. Olivia Copsey, Director of Education, Foundation for Environmental Education, Denmark (online)
- Dr. Ramachandra Rao Begur, Education Specialist, UNICEF New Delhi
- Mr. Kartikeya Sarabhai, Founder and Director, Centre for Environment Education (CEE), India
- Prof. Sunita Farkya, Head, Dept. of Edu. In Science and Mathematics, NCERT, New Delhi
- Ms. Heeta Lakhani, Youth Activist and Climate Educator, Green Warriors, Pune (online)

Summary of the Presentations and Discussions

Dr. Shweta Purohit and **Ms. Joyce Poan** moderated the session and welcomed the expert speakers and participants to join the session through hybrid mode.

Ms. Joyce Poan asked the following question to the panelists: **“What do you think are the issues, and how do you think we can strengthen climate change education in schools and higher education based on your experience?”**

Ms. Tushita Rawat addressed the gap between the importance teachers placed on teaching climate change and their confidence in doing so effectively. This discrepancy was exacerbated by the rapid pace of environmental change, surpassing the adaptability of educational content and pedagogy. To bridge this gap, recommendations included prioritizing teacher capacity building through collaborative and experiential learning opportunities. Climate change education should be region-specific, addressing local challenges and empowering students to devise actionable solutions. The new National Curriculum Framework (NCF) and National Education Policy (NEP)

2020 report underscored the need for a flexible, graded curriculum that aligns with the progression of climate change concepts, aiding teachers in delivering relevant content across different grades. Furthermore, embracing divergent discussions and discourse beyond traditional classrooms was essential, acknowledging the multi-level impact of climate change education. Ultimately, the focus should extend beyond teaching climate change directly to cultivating supportive ecosystem. This involved providing progressive resources, fostering educators' knowledge, and implementing a structured, graded system that guided both teachers and students in understanding and addressing climate change effectively.



Ms. Olivia Copsey, acknowledged the challenges in climate change education, citing a triple crisis of access, quality, and relevance in global education systems. Recognizing the need for an adaptable framework, the Foundation for Environmental Education (FEE) aims to empower young people through dynamic Education for Sustainable Development (ESD) pedagogies. She stressed the urgency of an integrated approach to climate change education, emphasizing both mitigation and adaptation strategies. FEE's Greening Education Partnership program focuses on scaling up climate change initiatives in schools, aiming for 50 accreditations in the Green Schools Program. To transform teaching and learning, the organisation advocates supporting teachers with a deep understanding of climate issues and pedagogical approaches. The foundation launched a Massive Open Online Course (MOOC), "Climate Change Education from Knowledge to Action," targeting primary and middle school teachers, with 674 participants enrolled, fostering a community of practitioners.

Dr. Ramachandra Rao Begur, identified challenges in scaling up quality climate change education. The key issues included translating policies and guidelines into effective classroom practices and bridging the gap from national

to classroom levels. Opportunities for improvement lie in leveraging the new National Curriculum Framework and integrating climate change content at the state level. He emphasized learning outcomes and skills development, particularly related to climate change, and offered a pathway for meaningful integration. Dr. Begur underscored the importance of partnerships, emphasizing the need to organize and convene diverse stakeholders for effective climate action and justice. Recognizing the need for differentiated strategies and contextualized approaches, he emphasized that one size does not fit all in achieving large-scale impact. Overall, the focus was on aligning policies, curriculum frameworks, and partnerships to foster widespread, impactful climate change education.



Mr. Kartikeya Sarabhai, spoke about the key issues in climate change education, highlighting the need to address climate anxiety by incorporating positive action at all education levels. He underscored the Handprint approach and also stressed inculcating eco-friendly habits, without immediately emphasizing the climate change connection, aided understanding and assessing challenges in environmental education and dissonance between classroom teachings and real-life practices posed hurdles, requiring innovative solutions. Mr. Kartikeya concluded by advocating for parental involvement in the education process to bridge the gap between school teachings and home practices.

Ms. Heeta Lakhani, highlighted crucial issues in climate change education, emphasizing the need to shift from viewing it as a subject to recognizing it as a lifelong reality. Capacity building for teachers is vital, fostering an understanding that extends beyond the classroom and assessments. She advocated for blurring the line between academic and non-academic subjects, urging a shift towards an action-oriented approach. She mentioned that making climate education practical and applicable at any education level is essential, motivating

individuals to translate knowledge into real-world impact. Ms. Heeta underscored the importance of a holistic approach, incorporating biodiversity and food systems into climate change discussions. She emphasized the necessity for climate education to extend beyond the classroom, promoting hands-on, practical experiences for a more effective and impactful learning experience.

To take the session further, Ms. Joyce Poan posed the question **“What are the innovative ways in which we can integrate climate change in non-formal education”?**

Ms. Tushita Rawat, emphasized innovative ways to integrate climate change into non-formal education (NFE), highlighting the alignment between NFE and climate change education as both are need-based and immediate. She suggested collaboration between governments and non-government organizations to address climate change in NFE settings. Project-based learning within communities was identified as a powerful approach, focusing on specific issues like waste management or emissions from local sources before delving into global concepts. Ms. Rawat saw NFE as an opportunity for project-based learning, citing examples like schools working on zero waste initiatives. She emphasized the importance of making climate change education measurable through action-oriented projects, complementing formal school education. NFE is viewed as a means to address dissonance when students witnessed climate impacts at home, creating ripples of change as learned concepts were applied within communities, Ms. Rawat added.



Ms. Joyce Poan posed a question to Ms. Olivia. **“Based on your global experience, what are some of the best-case examples of integrating climate change education in schools?”**

Ms. Olivia highlighted three best-case examples of integrating climate change education in schools with an adaptation focus. In Madagascar, the local Eco-Schools

program addressed access issues by introducing a farming curriculum and engaging students and parents in growing diverse vegetables, thereby adapting to local challenges. In Belgium, a school tackled quality concerns by redesigning its grounds, removing concrete, and incorporating rainwater harvesting, vegetable gardening, and animal husbandry for a holistic learning environment. In Tanzania, a school addressed relevance by partnering with the community on livelihood-based projects like banana and bee farming, enhancing the curriculum, improving local livelihoods, and boosting attendance. These examples showcased the effectiveness of multi-disciplinary, project-based learning approaches in addressing the triple crisis of access, quality, and relevance in climate change education.

Ms. Joyce Poan posed a question to Mr Begur, “**What are some of the opportunities in India for integrating climate change in the education system can you cite some examples of ongoing initiatives on climate change education at the state level?**”

Mr. Ramchandra Rao Begur mentioned that In India, there are significant opportunities for integrating climate change into the education system, focusing on large-scale interventions. The Comprehensive School Safety Program, implemented through Samagra Shiksha in various states, ensures a protective learning environment by integrating climate change elements. This initiative, initially addressing disasters, expanded to cover climate change challenges, emphasizing community involvement through school management committees. In Uttar Pradesh, the Youth Meena and Raju platforms empowered 6,000 adolescent groups to submit a charter of demands related to climate change at a state-level child convention. Moreover, the state of Maharashtra collaborated on concrete climate lesson plans for teacher educators, promoting sustainability education at the classroom level. These examples highlight the systemic integration of climate change into education, involving policy changes, community participation, and the inclusion of youth voices. Such initiatives bridge the gap from policy to practice, offering a comprehensive approach to systemic change in addressing climate challenges through education.

Ms. Joyce Poan posed a question to Ms Sunita, “**How is climate change education being incorporated into the curriculum in India under the new National Curriculum Framework? And how does it trickle down to each state? Additionally, how is climate change education being integrated at the state level?**”

Ms. Sunita Farkya talked about the new National Curriculum Framework (NCF) and the National Education Policy (NEP) 2020, which emphasises on integrating climate change education across all stages of schooling. The NEP 2020 advocates for a pedagogic design of five

plus three plus three plus four stages, promoting climate change education from the early years. The curriculum aims to include rational thought, independent thinking, and rootedness in India, drawing on ancient knowledge and literature related to climate change. Multilingualism and vocational education are also highlighted, emphasizing a holistic approach to environmental education. At the state level, the NCERT's NCF 2023 further emphasizes integrating climate change education by fostering rational thinking, community participation, and a focus on health and well-being. The curriculum encourages project-based learning and collaboration with communities to address environmental challenges. She highlighted the importance of instilling eco-friendly habits from an early age. Ms. Farkya also recommended promoting hands-on and experiential learning, incorporating tribal knowledge and community involvement, and ensuring that climate change education becomes an integral part of the curriculum across all educational stages. Additionally, fostering an understanding of environmental concepts over rote learning and encouraging independent thinking can contribute to creating environmentally conscious citizens.

Ms. Joyce Poan asked Mr. Kartikeya Sarabhai, “**What are the approaches to integrating climate change education in schools here in India?**”

Mr. Kartikeya Sarabhai, highlighted India's advantageous position for integrating climate change education, building on the foundation of environmental education. The National Education Policy (NEP) provides a curriculum framework supporting this integration. Emphasizing the unique Indian approach, he stressed duties alongside rights, aligning with the Constitution's principles. The key approach involves linking climate change actions to specific areas, like schools or communities, fostering a sense of community responsibility. Programs like Greening initiatives and handprint labs encourage schools and colleges to address local environmental issues collectively. This localized, community-centric strategy aims to instill confidence in individuals and empower them to contribute to broader sustainability goals.

Taking the session further, Ms. Joyce Poan opened the floor to the audience to share views.

Mr. Richard McDonald, Executive Director, R Futures Group, Switzerland, expressed optimism about India's commitment to addressing climate change in education. He highlighted the challenge of new policies facing assessment pressures and emphasized the risk of reducing climate education to a transactional, rather than interactive, experience. Mr. McDonald urged educators to focus on character and values education, ensuring that climate education remains holistic and aligned with the deeper

qualities that drive environmental activism. Teachers face challenges in providing hands-on experimental exposure due to assessment pressures. The solution involves integrating environmental science seamlessly into existing subjects, extending classrooms to address specific climate-related topics.

Ms. Tushita Rawat, suggested incorporating climate-related themes into ongoing lessons, like discussing water crises within the context of a water-related topic. This approach allows for holistic learning without the need for a separate environmental education class.

Outcomes

- Understanding of climate change education integration approaches including key Policies level initiatives
- Familiarity with some of the recent initiatives on climate change education in India led by various organizations
- Familiarity with the Greening Education Partnership in promoting and scaling up climate change education.
- Potential partnerships and collaborations for scaling up climate change education in India.

Recommendations

- Prioritize teacher capacity building to bridge the gap between the importance teachers place on climate change education and their confidence levels.
- Implement comprehensive, collaborative, and experiential learning methods tailored to region-specific needs for effective pedagogical approaches.
- Develop a flexible, graded curriculum aligned with the progression of climate change concepts to ensure dynamic content that caters to diverse educational settings.
- Promote holistic ecosystem cultivation beyond direct climate change education with a structured, graded system guiding both teachers and students in understanding climate change effectively.
- Emphasize multi-disciplinary, project-based learning approaches integrating climate change education into various subjects and addressing local environmental issues hands-on through non-formal education.
- Leverage technology and foster global partnerships, such as through Massive Open Online Courses (MOOCs) and digital platforms, to enhance collaborative learning and sharing of best practices in climate change education.





Thematic Session

4

WATER LITERACY: WATER INSIGHTS ON CLIMATE CHANGE FOR A SUSTAINABLE FUTURE

Background

Access to safe water, sanitation and hygiene is a human need that greatly impacts our health and overall well-being. The United Nations Sustainable Development Goal 6 (SDG6) emphasises the importance of “Ensuring Water and Sanitation for All” recognising that water is essential for sustaining life while safe drinking water defines the essence of civilisation. However due to factors such as population growth, industrialisation and climate change the availability and quality of our water resources are under great stress.

Ensuring effective water management, minimising wastage, increasing water use efficiency and sustainability of water sources and water infrastructure have become global challenge. As per United Nations (UN), billions of people may lack access to basic water services in 2030. To reach universal access to drinking water, sanitation and hygiene by 2030, current rates of progress would need to increase fourfold. Achieving these targets would save 8,29,000 people annually, who die from diseases directly attributable to unsafe water, inadequate sanitation and poor hygiene practices.

Water scarcity and water quality degradation are critical challenges that pose significant challenges to India as well, as the country is highly dependent on agricultural, industrial, and domestic use of water resources. As per the report of World Resource Institute (WRI, 2019) 60 crore people living in India face high to extreme water crises. A 2019 report by NITI Aayog says that 40 percent of Indian population will not have access to drinking water by 2030. It mentions that five out of the world's twenty largest cities facing water stress are in India and about two lakh people in India lose their lives every year due to inadequate and

unsafe drinking water, sanitation and hygiene.

Educating individuals, communities, and stakeholders about the significance of safe water consumption, responsible water use, groundwater recharge, saving water bodies, harnessing traditional water conservation methods with technologies, rejuvenating rivers and recycling & reusing treated water is paramount to achieving long-term water security and environmental sustainability.

Improving water education of all people will be essential for overcoming a host of different sustainable development challenges. Water literacy or educating for water, i.e., a focus on improving water literacy for all people - should be clearly integrated with all efforts on water.

Objectives

The overall objective of the session was to bridge the gap between “knowledge and action” by equipping participants with the “information and motivation” needed to contribute to effective water management practices and a sustainable future.

Following are the primary objectives of this session:

- **Awareness Amplification on the Urgency of Taking Actions:** To increase awareness among masses by inspiring the leaders and influencers about the critical importance of water management and sustainability.
- **Contextual Understanding of Climate Resilience and Role of Water:** To provide participants with an in-depth understanding on the relationship between water management and climate

change, changing precipitation patterns, groundwater depletion, stress on water bodies and extreme weather events.

- **Empowering Youth to Shift from Dialogue to Action:** To empower young participants with practical knowledge, tools, and resources on sensible and smart water management by using sustainability principles in policies, practices, and awareness campaigns.
- **Behavioural Changes to Encourage Actionable Sustainable Practices:** To inspire participants to adopt responsible water consumption behaviour by sharing success stories of water crusaders on sustainable water management (efficient water use, water conservation, uniting communities, wastewater treatment, and pollution prevention).
- **Promoting Integrated Approach:** To promote Integrated Water Resource Management (IWRM) - highlighting the importance of collaboration among stakeholders from industry, agriculture, urban planning, and environmental conservation.
- **Community Engagement:** To discuss strategies to engage local communities, schools, NGOs, and grassroots organizations to promote water education.
- **Encouraging Innovation:** To encourage the development and application of innovative water treatment methods, digital tools, and technologies.
- **Policy Recommendations:** To assimilate the insights and recommendations for policymakers to integrate water education into national and regional policies.

Moderator

Ms. Anupama Madhok Sud, Director & Editor, Water Digest

Speakers

- Chair: Mr. R. S. Tyagi, Expert Advisor, National Institute of Urban Affairs, Ex-Member-Delhi Jal Board
- Mr. Anshuman, Director, Water Resources Division, TERI
- Dr. Arya V., Assistant Professor, Department of Civil Engineering, Indian Institute of Technology, Delhi
- Dr. Jagdish Kumar, Senior Assistant Director & Chief, Shriram Institute for Industrial Research
- Ms Anjali Makhija, CEO, S.M. Sehgal Foundation

Summary of the Presentations and Discussions

Ms. Anupama Madhok's presentation emphasized on the significance of water literacy in the context of sustainability, particularly focusing on Sustainable Development Goal 6 (SDG6) that addresses water availability for everyone. She highlighted the challenges in the water sector, including declining water availability,

dry groundwater sources, and increasing demands across sectors like domestic, industrial, and agriculture. Ms. Madhok identified the need for an integrated approach to address these challenges and stressed on the importance of awareness, governance, and policy interventions. Water Digest, in its 18 years of operation, has been actively involved in creating awareness through campaigns, collaborating with state governments, promoting best practices, and participating in policy interventions. The presentation also touched upon various campaigns, including those conducted during the COVID-19 pandemic, online initiatives, and partnerships with organizations like UNESCO. Ms. Madhok highlighted the role of social media in reaching a wider audience and showcased the success of campaigns in terms of viewership and participation.

Water Digest's involvement in training programs with Delhi Jal Board on topics like rainwater harvesting and graywater management was presented as a means to empower individuals with the knowledge needed for sustainable water practices. The presentation also mentioned collaborations with organizations like the Segal Foundation and showcased Water Digest's own awards platform to recognize contributions in the field. Case studies from Spain and the USA were presented as examples of successful awareness campaigns leading to tangible outcomes, such as a significant reduction in water usage. Ms. Madhok concluded by expressing Water Digest's commitment to continuing its efforts in water literacy and invited further collaboration and engagement through social media channels.



Mr. Anshuman, discussed the challenges in the water sector, emphasizing the declining water availability, increased demand, and various issues such as inefficiency, water losses, and the impact of climate change. He highlighted the need for a more integrated and stakeholder-centric approach to address these challenges. He presented examples from projects, such as one in the Krishna Basin, where stakeholder engagement was crucial. In this project, stakeholders at different levels, including farmers, citizens, state-level agencies, and central-level

agencies, were actively involved in the decision-making process. The focus was on identifying and prioritizing adaptation options for climate change impacts, ensuring both scientific viability and economic feasibility.

Mr. Anshuman stressed upon the importance of building capacities and skills, stating that it is critical for sustainability and efficiency in water management. He discussed a project that engaged farmers in demonstrations of various water and energy-saving interventions, showcasing on-field practices. Another project involved groundwater recharge, where the local community actively participated in decision-making and implementation.

Ms. Anjali Makhija, provided insights into the work of the Segal Foundation, which focuses on water and climate-smart agriculture in villages across 12 states. Over the past 24 years, the foundation addressed water challenges in various villages, initially prompted by the prevalent skin problems due to water scarcity. The foundation implemented impactful modules, including building check dams, farm ponds, and recharge wells, with a ridge-to-valley approach to harness rainwater effectively. Emphasizing the importance of community involvement, Ms. Anjali highlighted the creation of water-positive leaders and the need to respect local knowledge.

She discussed the foundation's efforts in promoting water-efficient agricultural practices, such as laser leveling, drip irrigation, micro-sprinklers, mulching, requiring collaboration and wisdom for sustainable planning. Ms. Anjali also touched on addressing drinking water challenges, including the treatment of arsenic, iron, and fluoride. The involvement of youth and children in projects, especially in creating roof water harvesting structures for toilets, was underscored as crucial for future water sustainability. She concluded by emphasizing the role of social impact leaders in leading with compassion and working collaboratively for the betterment of water quality, availability, and quantity.

Dr. Arya V., discussed the critical issue of water scarcity and focused on wastewater reuse as a sustainable solution. She emphasized the global water stress scenario, with two-thirds of the population facing water scarcity for at least one month a year, and highlighted the significant water stress in India and China. There is high rate of water exploitation, with over 50% of available water being used annually, leading to groundwater depletion. She addressed the diverse water needs of various sectors, including domestic, industrial, and agricultural, creating competition for limited resources.

Dr. Arya stressed on the importance of water conservation, efficient irrigation practices, and rainwater harvesting and introduced the concept of wastewater reuse as a crucial

aspect of water sustainability. She discussed challenges associated with wastewater reuse, including social stigma and the need for upgrading treatment technologies. The necessity of adopting zero liquid discharge in industries and presented the idea of indirect potable reuse, where treated wastewater is allowed to mix with natural water sources before extraction was also discussed. Dr. Arya advocated for stringent guidelines, increased infrastructure, and cost-effective solutions to improve the quality of treated water for reuse. She also mentioned emerging contaminants or micro-pollutants in water, which pose long-term health and environmental risks and emphasized the need to address these contaminants when implementing wastewater recycling practices.

In concluding her presentation, Dr. Arya shared a glimpse of research conducted at IIT Delhi, where samples from the Yamuna River revealed the presence of pharmaceuticals, personal care products, steroids, pesticides, and industrial chemicals and highlighted the challenges associated with ensuring water quality in the face of emerging contaminants.

Dr. Jagdish Kumar, referring to the United Nations' 2030 agenda, outlined the eight targets and 11 indicators set to track the progress of achieving access to clean water and sanitation. He discussed India's water situation, emphasizing the challenges of groundwater depletion and contamination due to various factors. Dr. Jagdish delved into the chemistry of water composition, explaining the impact of pH, carbon dioxide resolution, and redox potential on water quality. He emphasized the importance of stakeholder understanding and participation, especially in improving catchment areas to address non-point source contamination.

The impact of sanitation achievements in India and the successful implementation of individual household latrines through the Swachh Bharat Mission were discussed. Dr. Jagdish presented findings from a study on the environmental indicators of open defecation, highlighting improvements in open defecation-free villages. Dr. Jagdish discussed the challenges in water monitoring, citing the vast number of villages and limited testing capacities. He stressed the need for institutional capacity building and training, with Shri Ram Institute actively contributing to training Public Health Engineers.

The importance of exploring the use of treated water and addressing sewage treatment operations' efficiency and the potential recovery of phosphorus as a resource were touched upon. Dr. Jagdish concluded by emphasizing the significance of integrated Water Resource Management for achieving sustainable development goals.

Mr. R.S. Tyagi, in his presentation on 'Awareness

on Integrated Water Management' emphasized the importance of realizing the source of water to encourage judicious use. He highlighted water as a limited resource, particularly for future generations, attributing the depletion of water sources to inadequate focus on treating sewage. With only 3% of the planet's water being potable out of the total 70%, Mr. Tyagi stressed the impact of climate change, linking it to anthropogenic activities encroaching on pristine areas and causing shifts in river basins, leading to natural disasters like floods. Mr. Tyagi underlined the need to educate the youth about climate change and its repercussions, given the critical decline in per capita freshwater availability from 6008 cbm at the time of independence to now below 1000 cbm in 6 out of 20 major river basins. As water sources deplete and populations increase, he advocated for a focus on water recycling and reuse, emphasizing sewage water as an asset that can yield potable drinking water, compost, and gas when treated. He provided insights into Delhi's water supply network, detailing its historical evolution from wooden logs to modern materials.

Additionally, Mr. Tyagi discussed the challenges in the urban water sector, including rapid urbanization, industrialization, poor enforcement of environmental laws, changing water demand, inadequate data management, and the impact of climate change. Throughout his presentation, he highlighted the continuous monitoring of water quality at every stage of treatment and production.

Outcomes

- Increased Public Awareness:** Enhanced public understanding of water-related challenges and the importance of responsible water consumption through Water Digest's awareness campaigns.
- Policy Influence:** Integration of insights and recommendations from Water Digest sessions into national and regional policies, leading to more comprehensive water resource management strategies.
- Youth Engagement and Education:** Empowered youth with practical knowledge and tools for sustainable water management, fostering a generation capable of addressing water challenges effectively.
- Innovative Solutions Adoption:** Encouraged the development and application of innovative water treatment methods, digital tools, and technologies in real-world scenarios for efficient water management.
- Collaborative Initiatives:** Increased collaboration among diverse stakeholders, including government bodies, NGOs, communities, and industries, for the implementation of integrated water management solutions.

Recommendations

- Promote Water Literacy Campaigns:** Implement targeted water literacy campaigns emphasizing responsible water consumption, sustainable practices, and environmental stewardship.
- Enhance Stakeholder Engagement:** Foster collaboration among diverse stakeholders, including government bodies, NGOs, communities, and industry, to develop integrated water management solutions.
- Empower Youth through Education:** Integrate water management education into school curricula, empowering the youth with practical knowledge and skills for sustainable water practices.
- Encourage Innovative Solutions:** Support and incentivize the development and application of innovative water treatment methods, digital tools, and technologies for efficient water management.





Thematic Session

5

CLOSING THE LOOP: EMPOWERING CLIMATE ACTION THROUGH CIRCULAR ECONOMY EDUCATION



Background

The thematic session titled “Closing the Loop” delved into the transformative model of Circular Economy (CE), emphasizing its potential in various sectors such as construction, transport, and food systems. The session underscored the pivotal role of education and awareness in fostering sustainability and climate action. The objective was to disseminate crucial knowledge, case studies, and practices to facilitate the transition from a linear to a circular economy.

Objectives

The objective of this thematic session was to utilise education as a powerful tool to disseminate information, awareness and knowledge related to multiple approaches being envisaged/practised to enable much needed transition from Linear to Circular. It aimed to facilitate a meaningful exchange of knowledge, experiences, and best practices among participants, focusing on the importance of shaping sustainable mindsets, and equipping individuals with the necessary skills to drive circular economy practices.

Moderator

Dr. Avik Mukherjee, Dean R&D, CIT Kokrajhar

Session Chair: Dr. Vimal Katiyar, Professor & Dean-Research and Development, IIT Guwahati. Coordinator, CoE for Sustainable Polymers & Sustainable Materials

Session Co-Chair: Mr. Prabhjot Singh Sodhi, Senior Programme Director (Circular Economy) CEE

Speakers

- Dr. Santosh Kumar, Asst. Professor and HOD - Dept. of Food Technology, CIT Kokrajhar
- Dr. Manoranjan Hota, Advisor, Skill Council of Green Jobs, New Delhi, Ex. Advisor, MoEFCC, Govt. of India
- Mr. Bhaskar Lath, Sr. Manager - Business & Strategy, ReCity, Mumbai

Summary of the Presentations and Discussions

Dr. Vimal Katiyar, highlighted the need to shift from a linear economic mindset to a circular one. He emphasized on sustainable resource utilization, development of value-added products, and minimizing environmental burdens.



Mr. Prabhjot Singh Sodhi, stressed on the concept that in a circular economy, there is no waste, and today's products are tomorrow's raw materials. He addressed the issue of plastic handling and proposed a robust end-

use approach by companies and mentioned the Green Credit Notification initiative as a way to quantify positive environmental actions.

Dr. Santosh Kumar, introduced edible films and coatings as sustainable alternatives to non-biodegradable plastic packaging. He discussed applications in various industries, highlighting their biodegradability and safety. Dr. Santosh concluded that these alternatives offer a practical step towards reducing plastic waste and fostering a circular economy.

Dr. Manoranjan Hota, discussed the role of skill development and green jobs in achieving circularity, particularly in plastics and waste management. He emphasized the importance of skilled workers in every stage of the circular economy, from manufacturing to waste management.

Mr. Bhaskar Lath, discussed ReCity's circular waste management approach, focusing on culture and beliefs, systems and information, and industry and workforce. He introduced the concept of a "socially restorative circular economy" with a focus on worker well-being.

Dr. Vimal Katiyar also highlighted challenges posed by plastics, especially in packaging, and discussed regulatory measures. He addressed concerns about the circularity of conventional plastics and the limitations of recycling. He shared initiatives at IIT Guwahati, including the development of biodegradable plastics and sustainability education programs.



Outcomes

- **Circular Economy Advocacy:** The session underscored the need for a shift from a linear to a circular economic mindset, emphasizing sustainable resource use, value-added product development, and minimizing environmental impact.
- **Principles of Circular Economy:** Speakers

emphasized the core principles of a circular economy where waste is eliminated, and today's products become tomorrow's raw materials. Key focus areas included addressing challenges in plastic handling and advocating for a robust end-use approach.

- **Innovative Solutions:** Sustainable alternatives like edible films and coatings for non-biodegradable plastic packaging were discussed, highlighting their biodegradability and safety. These solutions were seen as practical steps toward reducing plastic waste and fostering circular practices.
- **Importance of Skill Development:** The role of skill development and green jobs in achieving circularity, particularly in plastics and waste management, was highlighted. Skilled workers were deemed crucial at every stage of the circular economy, contributing to manufacturing and effective waste management.
- **Circular Waste Management Approach:** ReCity's circular waste management approach, focusing on cultural beliefs, systemic changes, and industry considerations, was presented. The concept of a "socially restorative circular economy" emphasized worker well-being and sustainable practices.
- **Challenges and Initiatives:** Challenges related to plastics, especially in packaging, were addressed along with regulatory measures. Initiatives at IIT Guwahati, including the development of biodegradable plastics and sustainability education programs, were shared as practical solutions to address environmental concerns.

Recommendations

- Integrate Circular Economy principles and practices into formal and non-formal education system.
- Encourage educational institutions to incorporate circular economy principles into their curricula across various disciplines, fostering a holistic understanding of sustainability and resource utilization.
- Create a centralized platform or network where industry experts, academics, and policymakers can regularly exchange insights, case studies, and best practices related to circular economy initiatives.
- Facilitate collaborative research projects and partnerships between educational institutions, industries, and government bodies to promote the development and implementation of innovative circular technologies and practices.
- Develop and implement policies that reward companies for sustainable practices, product designs with circularity in mind, and the reduction of environmental impact, fostering a more circular and environmentally responsible business environment.

5th International Conference on Sustainability Education

Theme: Educating for Climate Action and Sustainability

September 19 & 20, 2023 | India Habitat Centre, New Delhi, India



Thematic Session

6



WOMEN WRITERS IN SUSTAINABILITY: OLD DILEMMAS, NEW REALITIES

Background

Research from the CARE-WWF Alliance shows that empowering women can reduce environmental damage, especially when they are engaged in natural resource management and conservation leadership positions. While the U.N. estimates a staggering 80% of people displaced by climate-related impacts are women, they are least represented in leading our research. A woman on the field can empathise better with the issues being faced by the community at large, leading to a greater understanding of issues. However, in conservation and natural resource management, as in many business and academic endeavours, men are often elevated in areas like fieldwork and leadership, while women are often assumed to be better fits for support roles and “softer” jobs like communications and administration. It is imperative to emphasise the vital contribution of women in the research and field work in sustainability, particularly while examining the role of education in driving climate action and sustainability through behavioural change in communities. In this session, Green Lit Fest attempts to bring forth the challenges and opportunities faced by women, who have varied and extensive experience on the field.

Green Lit Fest (GLF) was launched in June 2021, by a team of writers and green enthusiasts, with the purpose of mainstreaming knowledge and dialogues on environment, climate change and India’s preparedness for them. It is India’s first platform dedicated exclusively to identifying, celebrating, and promoting books, writing, conversations, and various other cultural expressions on the environment for people of all ages.

About the Session

This thought-provoking session asked prominent women working across various areas in sustainability, how gender plays out in their careers and what are their observations about the lives of people on the field, as viewed from their own unique lens. From psychological to physical challenges, does gender have a bearing on their work? If it does, how do they deal with it? Are they able to impact and impart information to communities more easily, because they may have greater access to women who could enable and sustain changes in a household, as compared to their male counterparts?

This unique session surely left the audience with some much-needed food for thought, and sensitise them to the reality of working on the field, and the role they can play to turn things around.

Objectives

- To look at the role of gender within careers in sustainability.
- To understand real-time challenges and opportunities for women in this field.
- To understand how women researchers can leverage the advantage of having the confidence of communities for educating for climate action and sustainability.

Moderator

Ms. Megha Gupta, Head, Youth programme at the Green Literature Festival

Speakers

- Ms. Neha Sinha, Conservation Biologist, Author, Columnist
- Ms. Kavitha Iyer, Journalist & Editor
- Ms. Neha Dara, Head Round Glass Sustain
- Ms. Meena Raghunathan- Environment Educator, Author
- Ms. Donna Goodman- Founder Earth Child Institute, USA

Summary of the Presentations and Discussions

Ms. Megha Gupta, in her opening remarks, expressed gratitude to the Mobius Foundation and the Climate Reality Project for Green Lit Fest's involvement in the 5th International Conference on Sustainability Education. Acknowledging the audience, she observed a small but dedicated group interested in sustainability writing. Ms. Megha then posed a thought-provoking question about the consideration of gender's role in sustainability, emphasizing the broad nature of sustainability beyond environmental conservation. Referring to the UN Sustainable Development Goals, particularly Goal 5 on gender equality, she introduced the overarching theme for the panel discussion. Ms. Megha highlighted that all panelists are either writers or facilitators of writing, emphasizing their imaginative engagement with gender in sustainability. Following the introduction, Ms. Megha welcomed the expert speakers to be a part of thought-provoking discussion on 'Women Writers in Sustainability- Old Dilemmas, New Realities'.



Continuing her conversation, Ms. Megha, mentioned about Ms. Neha Sinha's book "Wild and Wilful," commanding the book's personal and heartfelt exploration of India's wildlife. She particularly appreciated Neha's chapter titled "The Mother of Tigers and Men," which sheds light on the perspectives of women in and around the Sariska Tiger

Reserve. She acknowledged the importance of amplifying these often-overlooked viewpoints in the realm of conservation. **Ms. Megha asked Ms. Neha whether being a woman provided her privileged access to such perspectives, and if being a man might have limited her ability to delve into these thoughts expressed by women in her book.**

Ms. Neha Sinha highlighted the complexities of engaging with these communities due to the deep-rooted societal structures, such as the purdah system, creating a time capsule reminiscent of the 19th century. Despite being a woman providing her with certain privileges, building trust for authentic responses in an ethnographic context required a significant investment of time. Neha emphasized the importance of her educational background and the luxury of time in conducting over a hundred interviews to share the untold stories of women in these communities. She underscored the unique perspectives of women, diverging from men's concerns, with women often expressing desires for education and a future beyond survival. Neha's book aims to amplify these marginalized voices, particularly focusing on women like Manjit, a cobra rescuer in Chhattisgarh, challenging stereotypes and showcasing stories that deserve broader recognition.

Ms. Megha asked Ms. Neha if she had encountered any unexpected or astonishing questions during her fieldwork. In her response, Ms. Neha Sinha shared her experiences of navigating the field as a young woman conducting solo fieldwork, highlighting the pervasive suspicion she encounters across various settings in India, be it cities or villages. She humorously noted the incredulity she faces, with people often questioning the legitimacy of her presence alone, assuming she must be accompanied by a man. Ms. Neha elaborated on instances in Rajasthan, where inquiries about her caste and marital status ensued, and even in Delhi, where observing and studying trees garnered attention and skepticism from onlookers. She described the prevalent societal image that dictates women's activities, causing her to be stopped by security guards and passersby who find it unusual for a woman to engage in fieldwork, reflecting a broader societal perception that women should adhere to certain roles and behaviours.

Ms. Kavitha Iyer, focusing on Ms. Megha's question regarding the access that women writers, reporters, and journalists have to women's stories, highlighted the significance of gendered perspectives in reporting. Drawing from her extensive reporting career of over 23 years, she emphasized that conversations with women affected by crises, be it drought, floods, or other disasters, revealed the true impact on households. Kavitha argued that women journalists, due to their ability to form relationships and gain trust, are better positioned to uncover the real story

behind a crisis. She shared personal experiences of facing suspicion and intrusive questions during fieldwork but stressed that building relationships with women in the community allowed her to obtain richer insights into their experiences. Ms. Kavitha concluded by underscoring the importance of the sisterhood and sorority formed between women journalists and their sources, enabling them to tell stories that men might struggle to capture. Despite facing misogyny, Ms. Kavitha emphasized the role of trust in achieving authentic storytelling and understanding the diverse perspectives of those affected by crises.

Ms. Megha further asked Ms. Neha Dara about potential differences in the pitches submitted by men and women during Ms. Neha's tenure as an editor at Round Glass Sustain and in her broader professional experience.

Ms. Neha Dara responded to the inquiry about the differences in pitches from men and women, asserting that women writers are not daunted and often venture into spaces considered unconventional. She highlighted the bravery and hardworking nature of women journalists, emphasizing their dedication to building relationships, asking questions, and conducting numerous interviews. Ms. Neha did not perceive a significant difference in the pitches received based on gender. Ms. Neha also brought attention to the reluctance initially faced from men during fieldwork and the subsequent respect earned, noting potential discrimination within organizations regarding opportunities for women in the field due to perceived challenges. The conversation then shifted to discussing the pressing problems faced by women in the field, exploring whether they were primarily physical or psychological challenges.

Ms. Megha inquired about the most pressing problems that women face in the field, questioning whether they predominantly involve physical challenges or psychological hurdles. She referenced discussions with numerous women about issues such as hygiene and related concerns. She invited insights from the panelists including their experiences and observations on challenges that might significantly impact women's ability to write effectively during fieldwork.

In response, **Ms. Neha Sinha**, emphasized critical challenges faced by women in the field, addressing the importance of recognizing women's demands as valid human rights. She highlighted issues such as access to proper toilets and the logistical challenges associated with travel to remote field sites. Ms. Neha pointed out that demands related to these issues are sometimes perceived as excessive or diva-like, but they are fundamental to women's safety and well-being. The discussion emphasized

the need for institutional support to ensure women's security during fieldwork, stressing the interconnected nature of toilet facilities and last-mile connectivity with women's safety concerns.

In continuation, **Ms. Neha Dara** highlighted the role of various institutions in creating an enabling space for women in journalism. She emphasized the importance of providing equal opportunities for women, irrespective of safety concerns, and ensuring that decisions are based on their skills and capabilities. Ms. Dara shared her commitment to creating an enabling environment by addressing seemingly simple but critical aspects such as equal pay, safe travel arrangements, and thorough vetting of local guides or hosts. She stressed the significance of women contributors knowing that the institution has their back, with mechanisms in place to address complaints or reports of misconduct. She discussed the responsibility of not providing a platform to individuals misusing their power to abuse women, even if it means taking down previously featured content. Overall, her response highlighted the multifaceted approach required to support and empower women in journalism.

Ms. Megha asked Ms. Kavitha about the challenges related to who gets to tell whose story, particularly in the context of imposter syndrome. **Ms. Megha inquired whether Kavitha or other writers have ever experienced doubts about being the right person to tell stories of women who may be different from them, considering the prevalent profiles in publishing and writing.**

Ms. Kavitha Iyer acknowledges experiencing imposter syndrome all the time, particularly when reporting on agrarian issues despite not feeling like an insider. Ms. Kavitha emphasized that the imposter syndrome always lingers, and she recognizes that while there may be better-suited individuals to tell certain stories, her role is to be there, bear witness, and tell the stories as she sees them.

Ms. Megha raises the issue of sustainability in education in India, emphasizing that sustainability is a broad concept encompassing various aspects beyond just environmental conservation. She pointed out the 17 goals in the UN's Sustainable Development Goals portfolio, including gender. **Ms. Megha asked Ms. Meena Raghunathan, about how holistically sustainability, particularly considering gender, is being approached in the context of education in India.**

Ms. Meena Raghunathan, explained that sustainability should not be treated as a standalone topic in education but rather as a pervasive lens through which students perceive and understand the world. She stressed the importance of integrating sustainability into the fabric

of education, influencing how every subject is taught and learned. This perspective goes beyond just imparting facts about environmental issues; it involves cultivating a mindset that considers sustainability in every action and decision. She shared insights from an analysis of curricula in India, revealing that the current education system tends to compartmentalize subjects into distinct boxes. This compartmentalization can hinder a holistic approach to sustainability education, preventing students from connecting the dots between different topics and understanding their interconnectedness. Ms. Meena also highlighted the necessity of moving beyond awareness and knowledge in environmental education. While students may be well-informed about issues like climate change, the ultimate goal is to instil the attitude, skills, and motivation needed for them to take meaningful action.



Ms. Meena Raghunathan pointed out a fundamental problem in educational materials where women are often portrayed in traditional roles such as doing housework, while men are shown reading newspapers. She emphasized the need for more sensitivity in creating educational content and advocated for showcasing stories of women's achievements. Ms. Meena draws a parallel with STEM education, which focuses on role modeling to inspire girls, and suggests that similar approaches should be adopted in addressing gender issues within sustainability education.

Ms. Megha Gupta asked Ms Donna Goodman about her global experience, questioning whether the lack of a holistic approach to sustainability, including gender aspects, is a universal issue or varies across countries.

Ms. Donna Goodman, highlighted that the lack of a holistic approach to sustainability, including gender aspects, is a universal issue present everywhere. She shared her experiences from working in 60 countries, emphasizing that gender norms and incomplete perspectives are prevalent globally. Ms. Donna also

mentioned her efforts to connect girls from diverse backgrounds facing similar challenges through storytelling. She concluded by noting that sustainability can be a jargon word, often misunderstood by the general population, and underscored the importance of addressing these issues in a more accessible manner.

Ms. Megha Gupta asked a question about the origins of the environmental movement in the US in the 1960s and expressed curiosity about the lack of awareness during that time. She also explored the idea of countries being insular, particularly larger ones, and whether preconceived notions impact how gender issues are viewed in different geographies. Ms. Megha sought Ms. Donna's insights, who has worked in various countries, on the variations in how gender issues are perceived and whether there are significant differences between East and West or if the disparities are more nuanced.

In her response, **Ms. Donna** highlighted the lack of awareness even in supposedly more liberal areas and provided an example of the recycling process in the United States, indicating that much of it does not actually occur as people believe. She emphasized the complexity of environmental issues, sharing a personal example of encountering pesticides on the lawn during her dog walks and the challenge of truly understanding potential dangers. Ms. Donna also mentioned an educational activity involving water distribution among children to illustrate the importance of making environmental issues personally relevant. She concluded by emphasizing the commonality in human experiences, regardless of geographical differences.

Ms. Megha asked Ms. Meena about the gender bias in institutional perspectives, particularly in the context of enabling institutions. She suggested that the lack of women decision-makers and insufficient gender sensitization may be at the root of the problem. She sought Ms. Meena's perspective, considering her substantial institutional experience, working in both non-governmental and corporate sectors. Additionally, Ms. Megha inquired about initiatives or strategies in place to address and change this situation.

Ms. Meena mentioned that toilet-related challenges are not exclusive to fieldworkers. She shared an anecdote about her husband's colleague who had to fight for adequate women's toilets in an educational institution. Despite having eight wings for faculty, there was only one set of women's toilets on the third floor. Ms. Meena mentioned that this incident occurred 35 years ago, expressing hope for improvements over time. Shifting the focus to corporate environments in India, she discussed the country's legislative approach to women's representation. She noted that Indian companies of a certain size have

been mandated since 2014 to have at least one woman on their boards. Ms. Meena shared her personal experience of being on seven boards after the implementation of this regulation.

She acknowledged the importance of having multiple women on boards to truly bring in diverse perspectives, stating that academic research supports the idea that a lone woman may not be sufficient. She highlighted the historical nature of boards being biased and the challenges faced by women in such environments. Ms. Meena commented on the evolving situation of women's leadership in India, pointing out the presence of women heading major corporations and holding significant roles in government. However, she emphasized that progress takes time, and there's still a need for women to fight for their voices to be heard and for meaningful representation, especially in decision-making positions.

Ms. Megha Gupta, queried Ms. Neha Dara about the gender dynamics in the field of writing and publishing, specifically asking if the positive representation of women in leadership roles is exclusive to certain fields like publishing. She inquired about Ms. Neha's perspective on whether this gender inclusivity is a common trend or if challenges persist in other non-publishing areas, considering her role in overseeing women's interests at Round Glass and her interactions with individuals from various professional domains.

Ms. Neha Dara reflected on the gender dynamics in attendance at the ICSE event, noting a predominant female presence. She emphasized the importance of including men in conversations about women's issues to foster awareness and understanding. Ms. Neha acknowledged that the writing and conservation field, including her own organization, may be more inclusive of women due to factors like lower pay. She recognized that certain professions, such as law, have seen increased female representation, but acknowledged the persistent gender skew in specific departments like sales, marketing, and finance.

Ms. Megha sought Ms. Donna's opinion on how gender issues resonate in the field of sustainability, emphasizing the uniqueness of Donna's viewpoint as someone from a different part of the world, highlighting the value of diverse perspectives.

Ms. Donna emphasized women's strengths as listeners and communicators. She observed that women may not always advocate strongly for children's issues. Ms. Donna also discussed the challenges faced by women leaders,

highlighting that being a woman doesn't automatically make one an advocate for other women. She attributed this to societal conditioning in a patriarchal system and the competitive nature of the university and job-seeking environments.

Ms. Megha Gupta in her concluding remarks expressed optimism about the world heading towards a better place. She spoke about women's natural inclination towards community building, emphasizing the need to harness this innate sense more in the professional sphere. Ms. Megha suggested that providing more opportunities for women in every field is crucial to ensuring that nobody feels left behind.

The session concluded with **Ms. Kavitha**'s remarks expressing her concern about the impact of the climate crisis on women, emphasizing that they will be disproportionately affected and the first to lose livelihoods. She mentioned that women, particularly in rural India, face challenges in accessing employment, leading them to take on micro-business opportunities and loans. Ms. Kavitha connected this issue to the fights of previous generations of women and questioned whether enough justice has been done to their legacy. She urged the need for a more systemic approach to address these challenges.

Outcomes

- Recognition of Gender Disparities:** The session highlighted the existing gender disparities in various fields related to sustainability, including conservation, journalism, and education
- Challenges Faced by Women in Fieldwork:** The discussion brought attention to the specific challenges faced by women in fieldwork, ranging from physical constraints to societal expectations. Issues such as access to proper toilets, safety concerns, and biases against women conducting solo fieldwork were emphasized as critical challenges.
- Importance of Women's Voices in Storytelling:** The session underscored the significance of women's perspectives in storytelling and journalism, especially in reporting on crises and environmental issues. The speakers highlighted the unique insights and connections that women journalists can build with affected communities, contributing to more authentic and nuanced narratives.
- Need for Holistic Sustainability Education:** The conversation emphasized the need for a holistic approach to sustainability education, integrating it into various subjects rather than treating it as a standalone topic. The speakers discussed the importance of addressing gender bias in educational materials and showcasing stories of women's achievements to inspire

future generations.

- **Call for Systemic Change:** The session concluded with a call for systemic change to address gender-related challenges, particularly in the context of the climate crisis. The speakers emphasized the need for institutions, including corporations and educational bodies, to adopt more inclusive practices, provide equal opportunities, and support women in decision-making roles. The discussion urged a more systemic approach to tackling the impact of the climate crisis on women, particularly in rural areas.

Recommendations

- **Establish Gender Quotas for Leadership Positions:** Advocate for the implementation of gender quotas in leadership positions within sustainability organizations and initiatives. This will ensure a more balanced representation and encourages the appointment of qualified women to decision-making roles.
- **Launch Targeted Training Programs for Women in Sustainability:** Develop and implement specialized training programs and workshops tailored for women in sustainability. These programs should

focus on enhancing leadership skills, promoting innovation, and building a strong foundation for women to excel in their professional journeys.

- **Create Inclusive Workplace Policies:** Organizations should review and revise workplace policies to ensure inclusivity and equal opportunities. This includes addressing issues such as equal pay, flexible work arrangements, and combating workplace discrimination to create an environment where women can thrive.
- **Establish Women-Centric Platforms in Sustainability Media:** Support and create platforms dedicated to showcasing the work of women writers, researchers, and professionals in sustainability. This could involve establishing dedicated sections in media outlets, organizing events, or launching publications that specifically highlight women's contributions in the field.
- **Implement Intersectional Initiatives:** Recognize and address the unique challenges faced by women with a focus on intersectionality. Design initiatives that consider the specific needs of women from different backgrounds, ensuring that policies and programs are inclusive and accessible to all, regardless of race, socio-economic status, or geographic location.





Plenary Session

2



in partnership with:



**VIRAM: AGENDA SUSTAINABILITY
POPULATION, CLIMATE ACTION & SUSTAINABLE DEVELOPMENT -
ROLE OF EDUCATION AND EMPOWERMENT**

Background

Over the past five decades, global population has doubled, the extraction of materials has tripled and gross domestic product has quadrupled. The extraction and processing of natural resources has accelerated over the last two decades, and accounts for more than 90 per cent of our biodiversity loss and water stress and approximately half of our climate change impacts. Over these last 50 years we have not once experienced a pro-longed period of stabilization or a decline in global material demand. (Ref: Global Resource Outlook)

According to global projections by the United Nations' International Resources Panel, less than one-third of the anticipated increase in the use of natural resources till 2050 would be the result of population growth, while the remaining (more than two third) would be due to increase in per capita consumption with rising prosperity. Limiting unsustainable patterns of production and consumption will be essential to achieve SDGs.

More than half the world's population today live in cities, and another 2.5 billion people are expected to join them by 2050. The frequency of torrential rain and storm surges is on the rise in big, densely populated cities like New York, Mumbai and Jakarta, hitting those living in marginalized, informal settlements like slums the hardest. Desertification swallows arable land needed to feed swelling urban populations. And sea level rise threatens everyone living in coastal areas, delta regions, and small-island countries.

Climate change is the foremost crisis of the 21st century, with devastating environmental, economic, and social

impacts. It has specific direct and indirect impacts on girls and women and gender-diverse people, affecting the realization of their human rights, including their sexual and reproductive health and rights (SRHR). Unequal power relations and historical and structural inequalities have created barriers to gender equality, including limited access to financial and other resources needed to adapt to climate change and maintain good health. Efforts to address climate change must take an intersectional approach because climate change impacts each person differently depending on their race, ethnicity, citizenship status, migrant status, refugee status, class, socioeconomic status, disability, age, geographical location, and sexual orientation, gender identity, and/or gender expression.

Objectives

The overall objective of the session was to trigger a dialogue among the participants by sharing knowledge, experience and challenges due to climate change, and making recommendations, keeping women and girls at the centre of discussion.

- To understand and highlight how climate change affects girls and women. Understanding key challenges that girls and women face in the wake of climate change and natural disasters.
- To discuss and share how sustainable and resilient practices and solutions on climate action and sustainability can help women to cope up with the challenges. Share selected good practices and community-based approaches from the field.

- To identify strategies that promote awareness among adolescent girls on climate action and sustainability to prepare them to cope up with their vulnerability.
- To make recommendations for policy makers, educators, civil society organisations (CSOs) and communities to mobilize collective climate actions and sustainability in favour of girls and women.

Session Break Up

- Interview of Chairman Mobius Foundation, Mr. Pradip Burman by Mr. Rajdeep Sardesai
- Panel Discussion (English Version)- Moderated by Mr. Rajdeep Sardesai
- Panel Discussion (Hindi Version)- Moderated by Mr. Sayeed Ansari

Rajdeep Sardesai, a renowned anchor of India Today Group interviewed Mr. Pradip Burman, the Chairman of Mobius Foundation, during the fifth International Conference on Sustainability Education in Delhi. Their conversation focused on the importance of sustainability, climate action, and population dynamics in the 21st century.

Wake-up Calls for Action

Rajdeep Sardesai raised the issue of a lack of sufficient action on the ground despite extensive conversations about climate action and population dynamics in India. Mr. Burman agreed that while these issues are discussed, it often takes a disaster or a significant event to prompt action. He pointed out that climate change is now driving action but emphasized that education has already contributed to controlling population growth.

Role of Education in Population Control

Mr. Burman stressed that education is a key driver for population control. He mentioned that India still has over 100 districts with a total fertility rate (TFR) above 2.0, and Mobius Foundation intends to work in these districts to provide contraception and control population growth. He underlined that educated individuals tend to have fewer children, as they prioritize their children's education and face challenges in getting their children into good schools of their choice.

A Message to the Youth

Mr. Burman directed a message to the younger audience, highlighting the urgency of taking action to protect the planet. He encouraged young people to join environmental groups and emphasized the importance of loving and preserving nature, as it directly impacts their future.

PANEL DISCUSSION INDIA TODAY (ENGLISH)

In a special India Today discussion, Mr. Rajdeep Sardesai moderated a panel of distinguished experts who shared their insights on issues related to population dynamics, gender equality, climate action, and sustainability. The discussion highlighted the intersection of these critical factors in addressing global challenges.

Panelists

- Poonam Muttreja - Executive Director, Population Foundation of India.
- David R. T. Richardson - CEO, Population Crisis Committee, United Kingdom.
- Nandita Bajaj - Population Balance, United States.
- Alistair Currie - Head of Campaigns and Communications, Population Matters, United Kingdom

Vision and Relevance of Sustainability and Population Dynamics

Mr. Pradip Burman explained why he chose sustainability and population dynamics as the key focus areas for Mobius Foundation. He highlighted that these long-term issues are interconnected and essential for ensuring the well-being of our planet. Expressing his views, he said that population stabilization is crucial for sustainability and mentioned that education plays a significant role in controlling population growth.



Discussion Highlights:

Empowering Women for Population Stabilization

Ms. Poonam Muttreja emphasized on the importance of empowering women by providing them with education, access to family planning, and reproductive rights. Education, in particular, is highlighted as a key driver in delaying marriage and opening up opportunities for women, contributing to population stabilization.

Gender Equality and Climate Action

Mr. David R. T. Richardson discussed the intersection between climate action and gender equality. He underscored the vulnerability of women in developing countries and the need to empower them through education, employment opportunities, and participation in STEM fields, emphasizing the significant role women can play in climate change mitigation.

Tackling Population Denialism

Ms. Nandita Bajaj introduced the concept of “population denialism,” which refers to an ideology that downplays the impact of population growth on the environment and society. She argued that addressing this denialism is crucial, and honest discussions about the challenges associated with population growth are necessary for finding effective solutions.

Approaches to Population Control

The panelists expressed their reservations about coercive population control measures and highlighted the importance of respecting individuals' reproductive rights and choices. They agreed that education, access to contraception, and female empowerment are more effective approaches to achieve population stabilization.

Sustainable Population Policies

Mr. Alistair gave the example of population policies in countries like Thailand and Rwanda, emphasizing the need to empower women, tackle poverty, provide access to contraception, and promote education. He advocated for a comprehensive approach that focuses on human rights and sustainability rather than coercion. He also highlighted the role of high-income countries, like the United States and the United Kingdom, in addressing the global population challenge. He called for these countries to increase their support for family planning initiatives in the developing

world, aligning their priorities with sustainable population policies.

Global Support for Family Planning

Ms. Nandita Bajaj called for increased global support for family planning, especially in countries with unmet needs. She highlighted the stark contrast between military spending and investment in family planning, emphasizing the need to redirect resources toward empowering women to make informed choices about their family size.

PANEL DISCUSSION AAJ TAK (HINDI)

Moderated By Mr. Sayeed Ansari, Anchor Aaj Tak

Panelists

- Dr. Govind Singh, Indian Institute of Mass Communication, New Delhi
- Dr. Ram Boojh, CEO, Mobius Foundation
- Ms. Huma Masood, Senior Gender Specialist, UNESCO
- Mr. Kartikeya Sarabhai, Director, Centre for Environment Education, Ahmedabad

Effect of Increasing Population on our Day-to-Day Life and Climatic Conditions

Dr. Govind Singh initiated the discussion by highlighting the substantial increase in India's population from 340 million in 1947 to 1.428 billion at present. He emphasized the immense pressure this population surge places on resources such as water and air, pointing out that every new birth requires these essential resources for survival. Dr. Singh stressed the urgent need for well-conceived policies to promote balanced development and underlined the vital role of education in addressing the population-related issues.



Mr. Kartikeya Sarabhai commented on the uncontrollable rise in India's population. He identified one of the key reasons as the traditional understanding of gender roles in Indian society. Sarabhai pointed out that cultural expectations often demand at least one son to continue the family line and perform the last rituals of parents. He called for a fundamental change in this mindset and the need to re-evaluate our perceptions of gender roles in society.

Role of Women Environment in Population Control

Ms. Huma Masood delved into the critical issue of women empowerment. She emphasized the importance of sensitization, education, and knowledge-building among women. Ms. Masood stressed that empowering women with the right information and decision-making capabilities is essential to ensuring their rights are adequately addressed.

Role of Composite Approaches like Facilitation, Awareness and Knowledge build up in tackling the issues of Increasing Population

Dr. Ram Boojh discussed the impact of media campaigns such as "Viram: Agenda Sustainability," initiated by the Mobius Foundation. He highlighted how such campaigns are effective tools for raising awareness and reaching marginalized communities through media. Dr. Boojh underlined the significant role of awareness and education in developing a better understanding of one's rights and improving their quality of life. He also emphasized the significant role that population plays in driving the vicious cycle of production and consumption, ultimately impacting biodiversity and the Earth's limited resources.



These insights provided by the esteemed panel of interviewees shed light on the complex and interconnected challenges posed by population growth and its impact on resources and development. The discussion encompassed the need for policy changes, re-evaluating traditional

gender roles, empowering women, and the role of awareness campaigns in addressing these pressing issues. The interview served as a valuable resource for policymakers, activists, and the general public to understand and tackle the challenges posed by population growth.

Outcomes

- **Enhanced Awareness of Climate Challenge:** Improved understanding of the challenges faced by women and girls due to climate change.
- **Empowerment Through Sustainable Practices:** Recognition of sustainable practices as essential for empowering women in the context of climate change.
- **Adolescent Awareness and Preparedness:** Emphasis on strategies to raise awareness among adolescent girls regarding vulnerabilities related to climate change.
- **Collective Action Recommendations:** Concrete recommendations for policymakers, educators, and communities to mobilize collective climate actions.
- **Global Support for Family Planning:** Call for increased global support for family planning, particularly in underserved countries, with a focus on reproductive rights and avoiding coercive measures.

Recommendations

- **Education for Empowerment:** Emphasize education as a key tool to empower women, delay marriage, and raise awareness about sustainable practices.
- **Empowering Women for Population Control:** Advocate for policies empowering women through education, family planning access, and reproductive rights for informed family size decisions.
- **Addressing Population Denialism:** Encourage open dialogues among policymakers and educators to dispel denialist ideologies and discuss the environmental and societal impact of population growth.
- **Sustainable Population Policies:** Urge policymakers to adopt sustainable population policies focusing on human rights, environmental sustainability, and learning from successful models in countries like Thailand and Rwanda.
- **Global Support for Family Planning:** Highlight the need for increased global support for family planning initiatives, especially in countries with unmet needs, and emphasize the contrast with military spending.



**Special
Plenary**



SUSTAINABILITY THOUGHT LEADERS CONCLAVE

The 'Sustainability Thought Leaders Conclave' convened distinguished figures in the realm of sustainability, where these prominent leaders in their respective fields exchanged invaluable insights. This gathering served as a forum for the exchange of profound ideas that contribute to the ongoing discourse on sustainability, fostering a collaborative environment aimed at addressing pressing global challenges. The session was chaired by Dr. Erach Bharucha, Director, Bharati Vidyapeeth Institute of Environmental Education and Research (BVIEER), Pune, India.

Speakers

- Mr. Leonard Sonnenschein, President, Conservation, Ocean Foundation, USA
- Mr. Deepak Jain, Delhi Management Association, Chairman-ESG Committee
- Mr. Jadav Payeng, Environmentalist, Forest Man of India
- Dr. G.D. Sharma, President Association of India University and V.C. University of Science and Technology Shillong, Meghalaya
- Ms. Bhuvana Santhanam, Director- Global Outreach, Sri Sathya Sai University for Human Excellence, Karnataka
- Mr. Dilip Surkar, Executive Director, VASCSC, Ahmedabad

Summary of the Discussion and Presentations

Mr. Leonard Sonnenschein in his presentation emphasized the significance of education in facilitating

climate change adaptation. He underscored that the inception of climate action begins with an awareness of the intricate interconnections within planetary cycles, spanning from land to sea and earth to sky. Mr. Sonnenschein highlighted the transformative impact of people's actions, both constructive and detrimental, on these cycles.

Mr. Deepak Jain, shed light on the global adoption of the Environment, Social, and Governance (ESG) Framework by companies. This framework serves as a standardized approach for companies to disclose data pertaining to their business operations. It encompasses information on opportunities and risks associated with the environmental, social, and governance aspects of the business.

Mr. Jadav Payeng, hailing from Assam is recognized as the Forest Man of India, shared his environmental endeavours. Over a span of three decades, he dedicated his life to planting approximately 40 million trees, transforming a barren Brahmaputra sandbar into a thriving man-made forest known as 'Molai Kathoni,'



covering an extensive 550-hectare area. In addition to his reforestation achievements, Mr. Payeng discussed his active role in raising awareness about climate change. Moreover, he emphasized the crucial contribution of women in conservation efforts.

Dr. G.D. Sharma, highlighted the significant contribution of the Association of Indian Universities (AIU) in shaping higher education in India as a research-based policy advisor to the Government. Emphasizing the importance of sustainable development goals, AIU conducts meetings addressing various aspects such as soil, forests, and oceans. Dr. Sharma noted that climate change, once a gradual process, is now visibly accelerating. Additionally, he highlighted sustainable initiatives like rainwater harvesting and solar panel installations undertaken by the University of Science and Technology, Shillong. Furthermore, he discussed the efforts of colleges and universities in raising awareness about sustainable practices among rural communities.

Ms. Bhuvana Santhanam, spoke about the pivotal role of education in fostering sustainability by instilling values in young minds from their foundational years. The rationale behind organizing conferences like these is rooted in the repercussions of excessive resource consumption over the past 50-70 years. She emphasized the imperative of incorporating values-based education throughout schools and universities. Addressing the issue of resource overconsumption, Ms. Santhanam introduced the concept of the fourth 'R,' which is 'Refuse,' in addition to the traditional three R's of 'Reduce, Reuse, and Recycle.'

Mr. Dilip Surkar, addressed the leadership crisis in the field of sustainability, emphasizing the need for leaders capable of elevating sustainability to a status akin to universally accepted religious principles. He stressed that sustainability should not be seen as a compromised solution. Mr. Surkar discussed the integration of climate change education into the school system as a crucial first step in nurturing thought leaders. Highlighting the role of VASCSC in Ahmedabad, he underscored the centre's significant contribution to promoting STEM education among students. This, he believes, will foster a scientific understanding of climate change, sustainability, and the environment, enabling students to make informed choices as they grow. Additionally, he emphasized the importance of merging fellowship and leadership programs in India as a key driver in cultivating future leaders.

The discussion concluded with a question-and-answer session.

Dr. Erach Bharucha: **When it comes to sustainability, especially at the school and college level, what**

would you consider the most crucial aspect people should know about oceans?

Mr Leonard Sonnenschein: Oceans play a vital role in providing the air we breathe and the food we consume. They serve as a recycling system for everything we do, yet our understanding of the ocean is less than our knowledge of the Moon. Every ocean species is just as intriguing as those on land, and it's essential to present information about oceans in an engaging manner. Encouraging people to develop love and respect for the ocean is paramount.

Dr. Erach Bharucha: **In the current context, how do leaders in corporate organizations who may not inherently prioritize sustainability view Environmental, Social, and Governance (ESG) considerations?**

Mr. Deepak Jain: Regarding corporations, the Government of India has mandated that the top 1000 listed companies in India must include an ESG report in their annual reports. Despite these regulations, corporations often struggle to effectively integrate them. It is crucial to raise awareness and ensure that the right actions are taken to enhance consciousness levels.



Dr. Erach Bharucha: **How are you planning to expand the good work that you have done in Assam to other parts of the nation?**

Mr. Jadav Payeng: Enhancing the education system on a global scale is crucial, ensuring that upcoming generations acquire practical knowledge about their environment. This knowledge is essential for fostering a deep appreciation and respect for Mother Earth.

Dr. Erach Bharucha: **How can the understanding of climate change and sustainable development goals (SDGs) be ingrained into the mindset of diverse**

academic faculties?

Dr. G.D. Sharma: Universities have initiated courses focused on Sustainable Development Goals (SDGs) and have taken on the responsibility of collaborating with neighbouring villages. They are actively seeking volunteers and exploring ways to connect SDGs with various aspects such as tourism, economic development, ensuring access to clean drinking water etc.

Dr Erach Bharucha: Please give one key message.

Ms. Bhuvana Santhanam: It is about integrating human values into education. To safeguard the upcoming generation and cultivate awareness, it is imperative

to enlighten and sensitize children about responsible consumption by emphasizing the interconnectedness of us all.

Dr Erach Bharucha: Please give one key message.

Mr. Dilip Surkar: Recognizing the necessity of acknowledging the Limits to Growth, it is crucial to effectively implement the New National Education Policy. It is important to prioritize experiential learning, a learner-centered approach, as well as hands-on and innovative teaching methods. Encouraging the establishment of climate action or sustainability labs in schools is essential to this effort.





Special Plenary

UNITED TOWARDS SUSTAINABILITY: LAUNCH OF SOUTH & SOUTHEAST ASIA NETWORK FOR ENVIRONMENTAL EDUCATION (SASEANEE) CONNECT



Background

South and Southeast Asia faced a range of environmental challenges caused by factors such as rapid population growth, urbanization, industrialization, deforestation, pollution, and climate change. Due to its unique socioeconomic and geographical characteristics, this region was one of the hardest hits by climate change in the preceding years. With the median age of the total population being 29.6, urgent action was deemed essential in this highly vulnerable and young region. Therefore, collective thinking, collaboration, education, innovation, and working together as a network were necessary to change the trajectory of the degrading planet.

The South and Southeast Asia Network for Environmental Education (SASEANEE) was initially launched in 1993 by the Centre for Environment Education (CEE) in partnership with IUCN CEC. It aimed to bring organizations and people together to share resources and experiences for environmental education in countries across the region.

To address the environmental challenges in the region, SASEANEE Connect was relaunched in 2023 at the International Conference on Sustainability Education in New Delhi. SASEANEE Connect was a collaborative consortium aimed at scaling and promoting environmental literacy, skills, and sustainability across the region. It was established through the joint efforts of leading global organizations such as CEE and core partners like Mobius Foundation, Foundation for Environmental Education (FEE), North American Association for Environmental Education (NAAEE), Global Environmental Education

Partnership (GEEP), Earth Charter, and IUCN Commission on Education and Communication (CEC) with a vision to foster education, innovation, restoration, and advocacy of green initiatives throughout South and Southeast Asia.

Objectives

- To launch the SASEANEE Connect network with core partners and share the idea behind its inception.
- To emphasize the urgent need for ambitious and coordinated actions to revolutionize environmental education globally, with a particular focus on the South and Southeast Asia region.

Moderator

Mr. Kartikeya Sarabhai, Founder-Director, CEE, Ahmedabad, India

Speakers

- Ms. Radhika Suri, Senior Programme Director, CEE, India
- Mr. Sam Barratt, Chief of Education, Youth and Advocacy for UN Environment Program, Nairobi, Kenya
- Dr. Hiroko Shibakawa, Assistant Professor, Okayama University, Japan
- Dr. Bethany Davies, Research Fellow, Australian Council for Educational Research (ACER), Australia
- Dr Umesh Kumar Mandal, Professor and Head, Central Department of Geography, Tribhuvan University, Nepal
- Ms. Michelle Dilhara, Environmentalist, author, film/TV star, and ICSE Youth Ambassador, Sri Lanka
- Ms. Rokeya Khaton, Director-General, South Asia

Cooperative Environment Programme (SACEP) Columbo, Sri Lanka. (Online)

- Mr. Sean Southey, President and Co-Founder of Zamia Media, Chair, Commission on Education and Communication, IUCN, Canada (Online)
- Dr. Cheryl Charles, Member of the Steering Committee- Co-Chair #NatureForAll for the International Union for the Conservation of Nature's Commission on Education and Communication (CEC), Co-Founder, President and CEO Emerita of the Children Camp; Nature Network, USA (Online)
- Dr. Pramod Kumar Sharma, Senior Director of Education, FEE, Copenhagen Area, Denmark (Online)
- Mr. Nalaka Gunawardene, Science Communicator and Media Educator, Sri Lanka (Online)
- Ms. Nina Hamilton, Senior Manager, International Programs and EE 30 Under 30 at North American Association for Environmental Education (NAAEE), District of Columbia, United States (Online)

Summary of the Presentations and Discussions

Ms. Radhika Suri, in her opening remarks, spoke about the phenomenal efforts and work of organizations in the environmental education sector. However, she emphasized that, given the urgency and pressing environmental issues, efforts must scale faster to achieve targets. Collaboration was considered key to reducing efforts and overlap in the work.



SASEANEE Connect was launched by **Mr. Sam Barratt**, Chief of Education, Youth and Advocacy for UNEP, Nairobi, Kenya. He complimented the idea of a network like SASEANEE Connect, mentioning that it was the need of the hour. He stressed staying focused on outreach and reaching the audience, considering it critical. In his deliberations he recommended the forming of a proactive network, emphasizing the value proposition, challenging universities to be bolder, and encouraging uncomfortable questions for meaningful change. He

further emphasized on building a community that actively contributes to transformative solutions, ensuring SASEANEE stands out as a radical and effective force for positive change.



Mr. Kartikeya Sarabhai discussed the concept and history of SASEANEE in detail. The SASEANEE panel identified the gaps and challenges in the environmental education sector in South and Southeast Asia. The panel discussed ways in which SASEANEE could address these challenges to promote widespread awareness and engagement. They explored opportunities for cross-border collaboration and knowledge-sharing in environmental education, considering the unique landscape of different countries. The focus was on learning from the best practices of other countries and overcoming their challenges. Mr. Sarabhai also presented the dedicated website of the SASEANEE network and highlighted its various features.



Mr. Sean Southey, Chair of the IUCN Commission on Education and Communication, emphasized the need for a proactive and collaborative approach to building a successful network. Recommendations included embracing a proactive and collaborative mindset, prioritizing regional networks, emphasizing content distribution, and fostering

diversity for innovative solutions.

Dr. Cheryl Charles applauded the relaunch of the South and Southeast Asia Network for Environmental Education for its exciting potential, building on past successes. She emphasized integrating initiatives like “Nature for All” and the “Global Lessons in Greening School Grounds” project to align with the network’s objectives. Recommendations included adopting an intergenerational approach, prioritizing children’s involvement, and preserving outdoor spaces for diverse nature experiences.

Ms. Nina Hamilton, representing the North American Association for Environmental Education (NAAEE), commended the launch of SASEANEE and stressed the significance of global collaboration and networking. Recommendations included approaching the development of SASEANEE collaboratively, leveraging existing networks, and researching the influence of networks for creating an impactful environmental education network.

Dr. Pramod Kumar Sharma, representing the Foundation for Environmental Education (FEE), emphasized the need for regional collaboration within large networks. Recommendations included fostering a culture of sharing, leveraging global initiatives, and proactively collaborating within the network.

Mr. Bidhan, the founder and managing director of an environmental and youth-focused organization in Bangladesh, expressed gratitude for being part of the historic launch of SASEANEE. Recommendations included leveraging the platform for shared learning, collaborative initiatives, and youth engagement to realize a Greener future in the region.

Mr. Nalaka Gunawardene, emphasized the drastic changes in the environmental landscape over the past three decades. Recommendations included prioritizing climate communication and education as essential components of addressing the climate crisis. Effective climate communication was considered crucial for educators and journalists to amplify the urgency of climate action.

Dr. Hiroko, representing one of Japan’s leading ESD universities, offered three key messages. Recommendations included building inclusive communities, focusing on educating educators, and recognizing the strength of collective action for sustainable education.

Ms. Bethany Davies, from the Australian Council for Educational Research, shared insights and recommendations. Recommendations included clarifying terms, emphasizing youth agency, prioritizing nature relations, and integrating indigenous knowledge for a

holistic approach to environmental education.

Dr. Umesh Kumar Mandal, from Tribhuvan University in Kathmandu, Nepal, stressed the need for regional collaboration, emphasizing that environmental problems surpass political boundaries. The key recommendation was to leverage regional collaboration for effective environmental solutions.

Ms. Michelle Dilhara, a Sri Lankan actress, author, and environmentalist, saw SASEANEE as a promising network to reconnect and collaborate with youth who will be future leaders. The key recommendation was to embrace SASEANEE as a platform for united environmental action and education.

Mr. Pradip Burman, Chairman of Mobius Foundation, expressed his gratitude for convening individuals at the conference and wished them success. He also recommended developing the platform to play an important role in advancing the sustainability movement.



Outcomes

- Recognition of the need for scaled efforts and collaborative approaches to address urgent environmental issues effectively.
- Launch of SASEANEE Connect, highlighting the importance of outreach and proactive networking.
- Identification of gaps in environmental education and strategies for addressing them through SASEANEE.
- Emphasis on proactive collaboration and diversity as essential for a successful network.
- Integration of global initiatives into SASEANEE’s objectives, focusing on intergenerational approaches.

Recommendations

- Develop a comprehensive strategic roadmap for SASEANEE Connect, emphasizing global collaboration, innovation, and urgent action.
- Foster a proactive and collaborative mindset, prioritizing diversity and inclusion.
- Highlight the crucial role of education for sustainable development (ESD), focusing on nature relations and indigenous knowledge.
- Emphasize clarity in terminology and empower youth to exercise agency.
- Strengthen regional collaboration to address environmental challenges effectively.
- Enhance climate communication and community-building efforts.
- Consider both global and local perspectives in decision-making.
- Encourage innovation, tangible achievements, continuous listening, and practical collaboration.



DAY 2

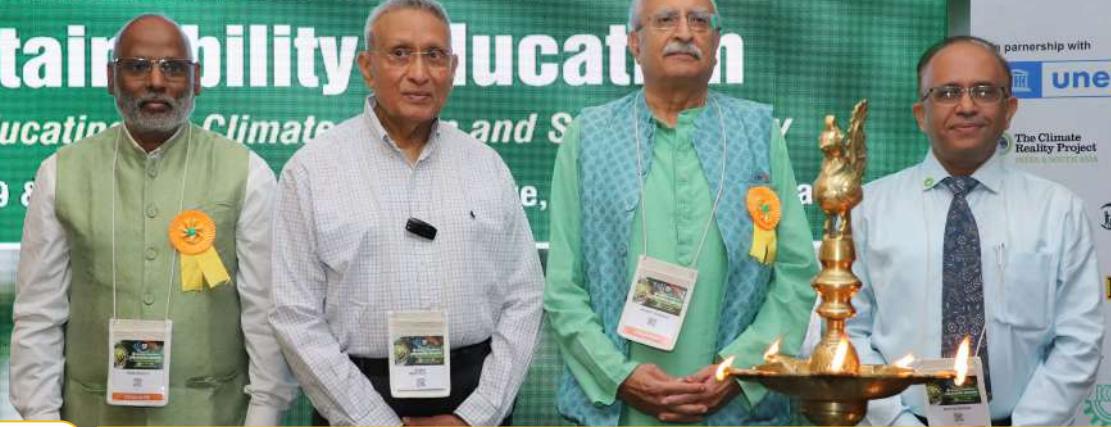
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5th International Conference on Sustainability Education

Theme: Education for Climate Action and Sustainability

September 19 & 20, 2023, India Habitat Centre, New Delhi, India



Plenary Session

3

YOUTH CONCLAVE: YOUTH FOR EARTH 2023 AWARDS CEREMONY



Background

India's youth represents the hope and potential of tomorrow. They are vibrant and enthusiastic, carrying the nation's aspirations and serving as a beacon for a bright future. With the world's second youngest population, after Africa, these young leaders are looked upon to bring about positive change and innovative solutions that can impact the entire world.

Mobius Foundation, The Climate Reality Project Foundation, India & South Asia collaborated to create the Youth for Earth campaign. This campaign has been a core initiative under the International Conference on Sustainability Education since 2020. Its main objective is to inspire young leaders and provide them with a platform to showcase their creative ideas and projects. The aim is to strengthen and support the realization of a sustainable future through innovative projects.

Youth For Earth 2023

The Youth for Earth 2023 campaign, which focused on the theme of SDG 13: Climate Action, received an overwhelming response this year. Over 200 students from all over South Asia registered for the projects, and we received over 75 project submissions for this year's edition. The campaign selected a total of 11 winners, including junior and senior categories. Winner teams were honored at the ICSE Conference 2023 held at India Habitat Centre, New Delhi on September 19 and 20, 2023.

Objectives

- Encourage young people to become "changemakers for

the future" by instilling a desire for behavioral change.

- Inspire participants to make a positive impact in their institutions and communities regarding sustainable environmental practices.
- Establish a mentorship quality with participants, guiding them through their teachers and motivating them to develop innovative climate solutions.
- Create a forum for all participants to share their experiences and exchange their knowledge about the impacts of climate change.
- Recognize the efforts of winners at the International Conference on Sustainability Education and invite them to future editions.
- Provide guidance to students in the proper direction towards climate change adaptation and mitigation strategies.

Moderators

Ms. Michelle Dilhara and Ms. Riya Deb moderated the Youth Conclave session.

Dignitaries

- Dr. Pradip Burman, Chairman, Mobius Foundation, New Delhi, India
- Mr. Ram Boojh, CEO, Mobius Foundation, New Delhi, India
- Mr. Kamal Meattle, Chairman Emeritus, Paharpur Business Center
- Mr. Krishan Kalra, Former Secretary General of PHD Chamber
- Mr. Aditya Pundir, Director, The Climate Reality Project, India & South Asia, New Delhi, India.

Mr. Aditya Pundir, presented his opinions on global

climate change. He discussed the necessity of acting quickly on climate change in addition to addressing it. He discussed the three pillars of innovation, technology, and changing behavior to bring about change. He also talked about how important it is to move towards sustainability education and greening campuses. He pushed young people's leadership qualities, which are crucial for change, to take an active role. He advocated the importance of the Youth for Earth campaign which instills the idea of hope among the youth.



Summary of the Presentations and Discussions

Evaluation Process Explained - Ms. Alka Tomar, Dr. B.C. Sabata, Ms. Madhu Bhatnagar, and Ms. Neha Raghav were part of the jury and evaluated the Youth for Earth campaign in 2023. They lucidly explained to the audience how important and challenging the task was to identify the best projects out of all the submissions. They applauded all the students who participated in this year's campaign and spread the message that the right interest, innovation, and the correct guidance from the mentors is the hope for our green future.

Winner Announcement - Ms. Riya Deb, project officer of the Climate Project Foundation took the stage to reveal the winners from the junior and senior categories. A special mention was made to the partners for the Youth for Earth Campaign - Talvar Ventures, Global Shapers Gurugram, Eco Network Bangladesh, and Global Shapers Nagpur who made 'Youth For Earth' reach out to educational institutes not only in India but also the entire South Asia.

Special honorary recognition was given to SD Vidya School Ambala for their consistent efforts in the Youth for Earth campaign.

WINNERS LIST



JUNIOR CATEGORY

1st Prize
Project Neeraja from Tribal Residential School, Rohile, Trimbakeshwar, Nashik, Maharashtra

2nd Prize
Project BacWP from The Iconic School, Bhopal

3rd Prize
Project Passionately Natural from TVS Academy Hosur

4th Prize (Consolation)
Project Beejgole from the students of Adarsh Vidyamandir Satara, Maharashtra

5th Prize (Consolation)
Project Finobadi from Govt. Sarvodaya Bal Vidyalaya

SENIOR CATEGORY

1st Prize
Team Tamira SES from Ashoka Trust from Research in Ecology and Environment

2nd Prize
Team Nirmiti from St. Joseph's University

3rd Prize
Team Polyfueler from Sershah Engineering College, Sasaram

4th Prize (Consolation)
Team Beat Plastic Pollution from Earkai Paathukaappu Sangam (Nature Protection Society)

5th Prize (Consolation)
Team Common Future from Charusat University

PROJECT DETAILS OF JUNIOR CATEGORY WINNERS



1st Prize

Project Neeraja

Team Representative: Prem Sanjay Tathe

Team Members: Subham Dattatreya Tidame, Kalpana Nandu Bhoye, Samadhan Balu Gorne, Saila Prabhakar Mutdak, Rohan Jagdish Mutdak, Shital Baban Udhari, Chandrkant Mohan Pawar, Kajal Uttam Tambe, Maya Gangaram Bendkoli, Rutuja Rohidas Tathe, Priyanka Sunil Tathe, Kajal Ravindra Mahale, Sarita Bhaurav Vaghare, Rupali Eknath Fasale

Project Brief: Project Neeraja was focused on watershed development, employing a holistic approach to manage and conserve water resources in specific geographical areas. The initiative incorporates various soil and water conservation measures, notably Continuous Contour Trenches (CCT) and Loose Boulder Structures (LBS). CCTs are shallow trenches along contour lines, designed to slow and capture rainwater, preventing surface runoff and promoting soil infiltration. This aids in curbing erosion and facilitating groundwater recharge. Complementing CCTs, LBS strategically placed in natural drainage paths slow water flow, spreading it to infiltrate the soil. The rocks act as barriers, reducing erosion impact and sediment runoff. This combined approach effectively preserves soil and water resources, fostering sustainable agriculture, reliable water supply, and biodiversity in the watershed ecosystem. Project Neeraja exemplified a successful integration of techniques for long-term environmental and agricultural benefits.



2nd Prize

Project BacWP

Team Representative: Deepika Yadav

Team Members: Bhavna Avasthi, Arpit Bundela, Janvi Patidar, Lucky Meena, Ananya Jain, Asmi Wankar, Vicky Meena, Niyashi Bansal

Project Brief: Project “BacWP” was an initiative focused on segregating and decomposing used sanitary pads to mitigate environmental impact. The project aimed to increase awareness and educate on proper disposal of pads to reduce environmental impact. Innovative solutions were explored, including the promotion of biodegradable or compostable sanitary pads made from natural materials. Collaboration with local waste management authorities, sanitation agencies, and NGOs was integral for implementing proper waste collection and disposal systems. The project’s overarching aims included environmental sustainability by developing pads that readily decomposed without harm, biodegradability through the use of natural materials, compostability for a sustainable end-of-life solution, and ensuring performance and comfort comparable to traditional pads. “BacWP” strived to reduce the environmental impact of traditional sanitary pads and advocated for sustainable alternatives, contributing to a more eco-friendly approach to menstrual hygiene.



3rd Prize

Project Passionately Natural

Team Representative: A.Nixon Anand

Team Members: Shreya Singhi, Deekshitha R., P. Subhashruthi, Kavya Gopinath, A. Sarvesh

Project Brief: The project Passionately Natural aimed to verify the authenticity of claimed organic farming practices by comparing crops sold by farmers with those grown in an experimental setting. Modern farming techniques, including organic pesticides, have led to soil infertility. The initiative sought to restore soil fertility through organic farming, promoting healthy eating, and raising awareness about the harmful effects of chemically treated crops. The project emphasized avoiding chemical-laden produce and steering clear of pesticides, fertilizers, and high-yielding seeds. Additionally, it aimed to educate people on preparing their organic inputs for farming and kitchen gardens, fostering a sustainable and health-conscious approach to agriculture.



4th Prize

Project Beejgole

Team Representative: Adarsh Anil Chalke

Team Members: Kunal Santosh Chalke, Prem Santosh Chalke, Dhanraj Santosh Chalke

Project Brief: BeejGole, Marathi for Seed Balls, employs a technique where seeds are encased in clay, compost, and humus, forming balls aiding germination. Inspired by Japanese natural farming pioneer Masanobu Fukuoka, this guerrilla gardening method involves tossing these seed balls into vacant areas to foster plant growth. This technique prevents seed consumption by pests and improves germination in challenging environments like rocky surfaces. Originating during World War II, Fukuoka aimed to boost food production without impacting existing farmland. BeejGole tackled afforestation challenges, ensuring seed protection and successful germination for sustainable reforestation efforts.



5th Prize

Project Finobadi

Team Representative: Apurv

Team Members: Vikas, Nikhil, Rustam, Manish, Vivek



Project Brief: The “Finobadi” project tackles the pressing issue of inefficient waste management and its environmental repercussions. Through an online platform connecting users with trusted kabadiwalas, Finobadi streamlines waste collection and recycling, curbing pollution and reducing landfill overflow. The “1 Plant for 15kg+ Plastic Waste” initiative further incentivizes responsible recycling, contributing to a cleaner environment. The project significance lies in its commitment to efficient waste management, promoting recycling, and fostering environmental conservation. By empowering kabadiwalas, raising awareness, and encouraging active participation, Finobadi not only addresses immediate environmental concerns but also cultivates a culture of sustainability, contributing to a cleaner, greener future.



PROJECT DETAILS OF SENIOR CATEGORY WINNERS



1st Prize

Project TamiraSES

Team Representative: Sneha Shahi

Team Members: Aditya Ganesh, Aman Gupta, Rahini V.

Project Brief: The project TamiraSES from Ashoka Trust from Research in Ecology and Environment based on Tamiraparani River Restoration in Tamil Nadu focuses on the unique and vital Tamiraparani River, the state's only perennial river. Lasting for about a year, the project aims to restore and conserve the river through scientific approaches and community engagement. Using the Y4E platform, the initiative plans to develop on-ground models for local-scale restoration, addressing identified pollution hotspots. The bottom-up, co-designed approach integrates community perspectives and rigorous scientific methods. The project emphasizes socio-hydro aspects, creating Social-Ecological Observatories in 5 villages and 2 towns to enhance river resilience to climate change. Capacity-building workshops, educational booklets, and long-term engagement strategies ensure sustainable freshwater system management.



2nd Prize

Project Nirmiti

Team Representative: Diya Kishan Warrier

Team Members: Yashas J. Gowda, Ritisha Pareek, Riddhi Deepak Polji, Hridya Nair

Project Brief: Project Nirmiti addressed water pollution, specifically focusing on the deteriorating condition of Bellandur Lake in Bangalore. The project's objective was to raise awareness about alternatives to harmful cleaning products to preserve local aquatic ecosystems. The lake, which suffered from toxic foam due to sewage, household waste, and industrial effluents, had prompted the initiative. Recognizing the urgency, the project introduced bioenzymes made from citrus fruit peels, serving as eco-friendly cleaning products. Utilizing old plastic containers and collected bottles, the project promoted waste reuse and aimed to combat the disposal of toxic household cleaning products into water bodies. Project Nirmiti strove to protect aquatic ecosystems, encourage organic waste reuse, reduce plastic waste, and provide affordable, efficient natural cleaning solutions.

3rd Prize

Project Polyfueler

Team Representative: Vineet Kumar

Team Members: Manish Bibhu, Abhishek Kumar, Vinita Kumari, Supriya Kumari

Project Brief: The polyfueler project addressed the global issue of waste plastic by presenting an innovative solution:

converting plastic into usable fuel. This initiative aligned with 'Sustainable Development Goal 13 - Climate Action', recognizing the crucial role of plastic in modern life. Polyfueler not only tackled plastic pollution and greenhouse gas emissions but also created a circular economy. By providing a cleaner fuel alternative, the project contributed to a sustainable future and job creation in local communities. It emerged as a vital player in combating climate change, fostering responsible waste management, and achieving SDG-13 for a cleaner, resilient planet.

4th Prize

Project Beat Plastic Pollution

Team Representative: S V Rajeshwar

Team Members: N. Ruban, T. Rajkumar, M. Kumar, R. Baskar, G. Esakkimuthu, M. Bala Sundaram, M. Karthik, R. Harikumar

Project Brief: Beat Plastic Pollution addresses the pressing issue of plastic pollution, the project aims to raise public awareness in our tourist destination district. With beaches, rivers, and mountains, our environment suffers from plastic waste, harming aquatic and wildlife. Unawareness is a major concern. The project focuses on educating the public about plastic pollution's impact and advocating for a switch to biodegradable products. The mission includes saving aquatic and wildlife, preserving water bodies, preventing plastic entry into ponds and oceans, and promoting plastic recycling. By reducing plastic use, our project strives to create a cleaner, greener environment for a sustainable future.



5th Prize

Project Our Common Future

Team Representative: Shubhankar Shahi

Team Members: Rahini Krishnan, Shaily Shirke, Antony Rejoy, Kreedika P.

Project Brief: The project Team Common Future focused on the critical issue of food security in the context of climate change. Objectives included exploring linkages between climate change and agriculture, understanding challenges faced by farmers, and improving agricultural practices. Strategies involved field surveys, climate change projections analysis, collaboration, workshops, and pilot projects. Data collection methods used remote sensing, satellite imagery, and climate models. Farmer interviews emphasized climate-smart agriculture and crop diversification. Empowering small-scale farmers and promoting knowledge sharing were key actions. The project highlighted the need to address potential impacts on human populations, aligned with Sustainable Development Goals, and emphasized resilient, sustainable food systems.

Special Award

Project SD's Eco Crew

Team Representative: Trishika Rana

Team Members: Nishtha Gupta, Ravpreet Kaur Gun, Disha Nagpal, Bharti Sehgal

Project Brief: SD's Eco Crew project initially focused on a composting unit for local temples but expanded exponentially. Over 3 months, they engaged the community in activities like indoor plantation, water conservation, waste segregation, tree planting, and donation drives. Their initiative also encompasses renewable energy, zero waste at school, involving young students, planning larger events, and educating farmers on eco-friendly practices. The project's ongoing success stems from its unexpected growth, becoming a lifelong commitment. Aiming to raise environmental awareness, contribute to society, promote sustainable practices, and reduce resource wastage, the project signifies the transformative impact of grassroots initiatives on individuals and communities.

Mr. Pradip Burman, Chairman of Mobius Foundation, Mr. Ram Boojh, CEO of Mobius Foundation, Mr. Aditya Pundir, Director of the Climate Project Foundation, and Mr. Praveen Garg, President of Mobius Foundation felicitated the awardees with cash prizes for their green projects.



Top row: Project Nirmiti, Middle row (3): Project Beat Plastic Pollution,
Bottom row: Cash prizes awarded to winners by Mobius Foundation

BOOK LAUNCH

Mr. Anand Pendharkar and Mr. Parvaiz Yousuf for the very first time, unveiled their respective books which spoke about the practical aspects of environment-specific details. The authors explained what their book was about.

Mr. Anand Pendharkar, a Climate Reality Leader and also co-author of the book, “Climate Actionneers’ Primer: A Beginners Toolkit”, spoke about the 100 practical solutions that any individual could adopt to contribute towards net-zero goals.

Mr. Parvaiz Yousuf, an author and a consultant for The Climate Project Foundation, hailing from Kashmir, was an ornithologist, researcher, and science journalist. He authored the book - “Birds of Jammu and Kashmir, including Ladakh.” He spoke about how important it was to know about the biodiversity around oneself in one’s community.

Ms. Iwona Gin, Head of European Projects at Nausicaa, National Sea Experience Centre, France, spoke about how the oceans covered more than 70% of the area on Earth, making it appear like a blue marble. She talked about the young people who had formed the “Youth for Ocean Forum” in Europe to save the oceans to survive. Within the forum, they shared the various projects they did and advocated the decisions they wished to make for the future. She announced a conference that would happen in France in 2025, which would assemble young people for a conference and share the projects they were doing.

The vote of thanks was given by **Dr. Bhagyashree Keshewani**, from Mobius Foundation. She expressed her gratitude towards all the stakeholders and organizers for hosting an excellent international conference on Sustainability Education.

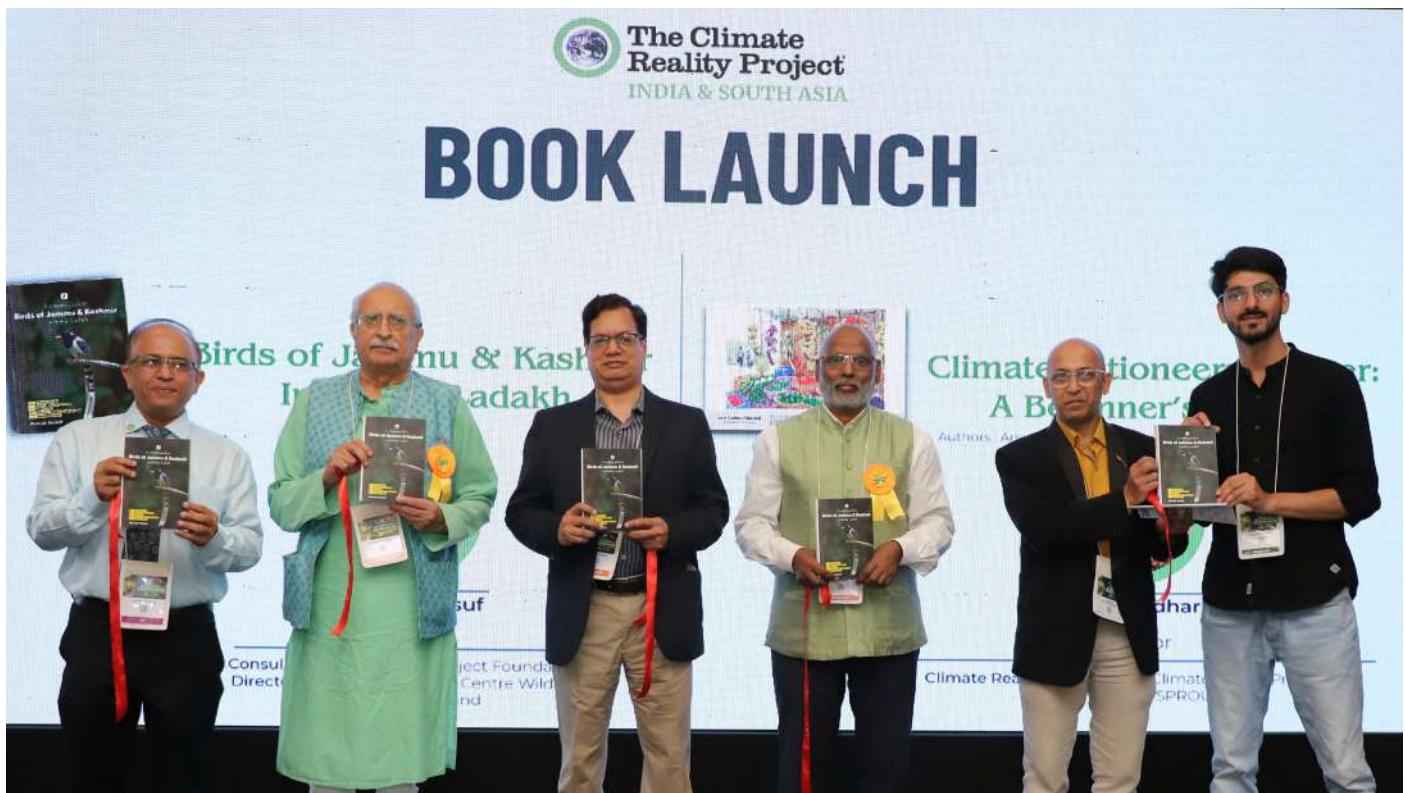
Outcomes

- The Youth for Earth Campaign of this year was highly successful.
- Positive feedback was received from all participating schools and universities in India and South Asia.
- Participants showed high motivation and enthusiasm.
- Constant communication was maintained with participants through social media platforms.
- This facilitated dialogue among peers, empowering them to become future leaders and mentors for upcoming editions.

Recommendations

- **Continued Engagement and Mentorship:** Maintain ongoing mentorship programs to guide participants beyond the conference, fostering a culture of continuous learning and innovation in sustainability.
- **Expansion of Reach:** Extend the Youth for Earth campaign’s reach to more educational institutions across India and South Asia, encouraging greater participation and diversity in climate action initiatives.
- **Enhanced Collaboration:** Foster partnerships with additional organizations and stakeholders to amplify the impact of the campaign, facilitating knowledge exchange and resource sharing on a broader scale.
- **Integration of Feedback:** Incorporate feedback from participants to refine future editions of the campaign, ensuring that it remains relevant, engaging, and impactful for young changemakers.
- **Sustainable Legacy Building:** Establish mechanisms to track the impact of projects initiated by participants, creating a legacy of environmental stewardship and community empowerment.





Top: Launch of the books by their authors and the Mobius leadership; *Climate Actionneers' Primer: A Beginner's Toolkit* by Mr. Anand Pendharkar and *Birds of Jammu and Kashmir, including Ladakh* by Mr. Parvaiz Yousuf

Bottom: Cultural performances by the students of Saint Mary's School, Dwarka, New Delhi



5th International Conference on Sustainability Education

Theme: Education for Climate Action and Sustainability

Location: India Habitat Centre, New Delhi, India

In partnership with

UNESCO

The Climate Reality Project

CDP

POURBALANCE



Thematic Session

7

MOVING TOWARDS SUSTAINABLE DEVELOPMENT THROUGH MISSION LIFE (LIFESTYLE FOR ENVIRONMENT)

Background

It is encouraging that India's carbon footprint is less than 60% of the global average. The credit for this goes to India's deep-rooted ethos for sustainable living and respect for nature. However, globalization has caused a deviation from these practices. Major environmental issues, such as the excessive use and disposal of plastics, waste of natural resources, lack of waste management, increase in e-waste and medical waste, and injudicious use of chemicals in agriculture and textiles, are being faced. To address these challenges, measures are needed to encourage sustainable practices and bring about behavioural changes.

The Mission LiFE, led by Prime Minister Narendra Modi, is a step in this direction. It aims to encourage people to adopt sustainable and environment-friendly lifestyles through formal, non-formal, and informal nudges, transforming the demand-supply chain, and promoting policy change. The initiative focuses on increasing resource-use efficiency, promoting a circular economy, and encouraging the concept of reduction, reuse, and recycling. The government has launched a pan-India competition to adopt the best lifestyles for the environment, with The Energy and Resources Institute (TERI) being one of the selected winners. This initiative is particularly relevant to the younger generation, who are the most affected. It is important to understand and acknowledge the environmental issues and their impact and to encourage sustainable lifestyles that GenZ, Alpha, and subsequent generations can adopt. To further the discussion on Mission LiFE, TERI invited speakers and representatives from various institutions to share their experiences and initiatives. The panel discussed the importance of creating awareness and behavioral change in society to achieve

the mission's goal of reaching 1 billion Indian and global citizens.

Objectives

- To bring out the work that is being carried out in different sectors around children/ youth and environmental sustainability.
- To discuss the effectiveness of existing policies and identify the policy interventions required to bring about the desired impact through the mission.
- To identify concrete steps to increase awareness and outreach among students and youth.
- To determine the necessary interventions needed to achieve the objectives.

Moderator

Dr. Neha, Senior Fellow, Strategic Communication for Sustainability, TERI, New Delhi

Speakers

- Dr. Livleen K. Kahlon, Associate Director, TERI, New Delhi
- Dr. Dipankar Saharia, Senior Director, TERI, New Delhi
- Mr. Anshuman, Senior Fellow & Director, Water Division and Winner of Mission LiFE Competition organized by Niti Ayog
- Ms. Saumya Sil, Revenue Officer (WBCS) Dept. of Land Reforms and Land Revenue & Refugee and Rehabilitation Govt. of West Bengal.
- Ms. Shashi Banerjee, Director, Shiv Nadar Schools

- Mr. Rupeshvara Gaurang Das, From ISKCON, Lifestyle Coach, Motivational Speaker, Counsellor and Guide
- Dr. Amit Tuteja, Founder, Connecting Dreams Foundation

Summary of the Presentations and Discussions

Dr. Neha set the theme of the session by highlighting that sustainability is critical in today's context, and our decisions and actions will have a significant impact on shaping our future.

Dr. Livleen K. Kahlon, set the tone by highlighting the importance of environmental education. She emphasized that interdisciplinary participation is key to promoting environmental education and 21st-century skills, and students should be part of such forums to interact with experts from diverse knowledge fields. In his special address, Dr. Dipankar Saharia, Senior Director at TERI, spoke about the 50 glorious years of TERI in the area of sustainability.

Mr. Anshuman, emphasized that resource-use efficiency can be effective when we have a critical mass change. He highlighted that Mission LiFE is all about behavioural change towards using natural resources effectively, and youth has a greater role to play. It is important to study how natural resources like water are used, how resource-use efficiency can be increased through behavioural changes and curb wastage.

Ms. Saumya Sil, emphasized that sustainability can be

achieved through a bottoms-up approach that starts from individuals, communities and then moves upwards. She opined that the three pillars, environment, economy and civil society should work in coordination with each other.

Mr. Rupesvara Gauranga Das talked about how pollution of the environment is directly related to pollution of the mind. The solutions will not be sustainable till the time human consciousness is raised through meditation and yoga. Mr. Das talked about the Goverdhan Eco-Village initiative that ISKCON is running in Mumbai and various other sustainable solutions are being promoted amongst youth, which also contribute to achieving Mission LiFE.

Ms. Shashi Banerjee opined that there cannot be one solution if we have to work towards sustainability. She emphasized that schools are spaces where the youngest of learners get opportunities to live and grow towards actualizing potential individually and societally, and making the world a better place. She stressed that educators have to see what teaching and learning environments can do or are doing towards Mission LiFE. She pointed out that practicing mindfulness and co-creation are important to achieve the objectives of Mission LiFE.

Dr. Amit Tuteja highlighted how supporting youth to earn their livelihoods can help in the success of Mission Life. "Start helping people's dream it helps connect one's dream" That is the mission with which Dream Foundation is working with youths. They have created more than 25000 change makers. He emphasized that changing the mindset from competition to contribution will bring about great behavioral change in youth.



Dr. Neetika W. Chhabra, Fellow, TERI, highlighted the session's key takeaways. The session concluded on an enthusiastic note.

Outcomes

- The audience gained valuable insights into the role of the education sector in sustainability and the challenges it faces today.
- The success of Mission LiFE was emphasized to depend on adopting a holistic approach and providing proper mentoring to the youth.
- Mission LiFE's goal was to bring behavioral change across society, focusing on how we live, use resources, and consume, with mindfulness towards nature.
- The need for promoting greater synergies and mindfulness in various aspects of life was highlighted.
- Programs covering spiritual, behavioral, and aspirational aspects were recommended for a more meaningful approach to achieving sustainability.
- The session stressed the importance of encouraging positive behavior in youth through role modeling and exposure to forums that provide a comprehensive view of relevant issues.

Recommendations

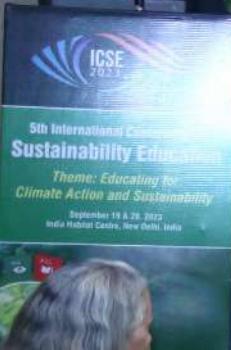
- **Holistic Approach and Mentorship:** Emphasize the adoption of a holistic approach in implementing Mission LiFE, providing proper mentorship to the youth for a more effective and sustainable impact.
- **Behavioral Change Through Education:** Focus on interdisciplinary participation and environmental education to promote behavioural change, recognizing the critical role of students and the youth in shaping a sustainable future.
- **Bottom-Up Sustainability:** Encourage a bottoms-up approach to sustainability, starting from individuals and communities and moving upwards, with coordination between the pillars of environment, economy, and civil society.
- **Mindfulness and Co-Creation:** Advocate for mindfulness practices and co-creation in educational environments, stressing their importance in achieving the objectives of Mission LiFE and fostering a sustainable mindset.
- **Youth Engagement and Livelihood Support:** Strengthen initiatives that support youth in earning their livelihoods, promoting a shift from a competitive mindset to a contributive one. Encourage programs that connect youth with their dreams and empower them to be change-makers in sustainability.



5th International Conference on Sustainability Education

Theme: Educating for Climate Action and Sustainability

September 19 & 20, 2023 | India Habitat Centre, New Delhi, India



Thematic Session

8



TEACHING DISCIPLINED ENTREPRENEURSHIP TO CREATE 100 NEW SUSTAINABILITY VENTURES

Background

For India and the world to achieve SDG goals, the pace of startup creation has to be dramatically accelerated. While India has top notch talent and unbound hunger in our universities, there is a serious gap in enablement and opportunity. As a result, most ideas and innovation efforts remain in minds and labs, and don't turn into market disrupting companies.

SusMafia has envisioned Sustainability Ventures to create an engine that regularly spins out new companies straight out of universities targeting impactful problems within the realm of sustainability, where India can lead the world.

Sustainability Ventures is a semester-long course that aims to transform students into sustainable venture builders. Inspired by the renowned Energy Ventures course taught at MIT and guided by Bill Aulet's book on disciplined entrepreneurship, our goal is to equip students with the knowledge, skills, and mindset to create profitable ventures that drive positive impact on society and the planet. Sustainability Ventures offers a hands-on, practical learning experience for budding entrepreneurs, fostering their development as change-makers in the field of sustainability.

Objectives

- Ecosystem curation: Get the right people (donors, investors, founders, partners) around the table
- Standard curriculum design for the semester-long course based on MIT's Disciplined Entrepreneurship Approach
- Business plan design and curation

- Partnering with universities for the first two semesters across all elements to make the program implementation successful and put into auto-pilot
- Co-teaching: SusMafia entrepreneurs will be involved in co-teaching specific parts of the curriculum as guest speakers
- Catalytic Investments: SusMafia community members (entrepreneurs and investors) will pool in capital to form a syndicate that will consider investing in the Sustainability Ventures, which would catalyze follow on investments from others.

Moderator

Mr. Arjun P. Gupta, Director, The Sustainability Mafia

Speakers

- Prof. J. Dhariwal, Assistant Prof. Department of Design, IIT-Delhi
- Prof. Vimal Katiyar, Dean R&D, IIT- Guwahati, Assam
- Mr. Tarun Gangwar, Academic Director, Master's Union
- Mr. Sachin Arya, Head, Alumni & Pilani Innovations and Entrepreneurship Development (PIEDS) Society, BITS Pilani
- Ms. Sreyashee Das, CEO, AIC, Sangam Foundation

Mr Arjun P. Gupta, introduced SusMafia's latest programmes. For the past three and a half years, it has a clear mission to enhance the success of founders in the climate action space by fostering collaboration and providing support. The primary goal of SusMafia, as articulated by Arjun, is to generate a hundred sustainability ventures within the next three to five years, originating from leading Indian universities. This ambitious objective

seeks to tap into the innovative potential of students and researchers, turning their ideas into viable businesses that contribute to climate action.



Mr. Arjun's address was interactive, involving the audience in a series of clapping exercises to gauge collective agreement on statements affirming India's potential as a global leader in climate entrepreneurship and the presence of bright and passionate students. He also touched upon the challenges faced by potential entrepreneurs, emphasizing the importance of creating a conducive environment for them to thrive. To illustrate the significance of their mission, Mr. Arjun shared two stories. One depicted the struggle of an Indian technologist named Priyanshi, who, despite creating a groundbreaking technology for thermal energy storage, faced insurmountable barriers in transforming it into a viable business. The second story highlighted the success of Kevin Kang, a Canadian innovator who received extensive support during his journey to turn agricultural residue into fuel, ultimately founding a successful company. Mr. Arjun's storytelling aimed to underscore the need for a shift in the entrepreneurial landscape in India, encouraging more success stories like Kevin's and fewer missed opportunities like Priyanshi's.



perceive the differences between the ecosystems of MIT and IIT, drawing from your experiences in both institutions? Specifically focusing on sustainability entrepreneurship, what impactful actions do you believe need to be taken now to enable the emergence of more sustainability companies, particularly from IIT Delhi?"

Prof. J. Dhariwal expressed his broader motivation towards sustainability, emphasizing the need to address global challenges. He highlighted three key points: the importance of understanding climate science, considering the macro perspective of emissions by countries and sectors, and encouraging disruptive ideas to solve environmental problems. He also brought attention to unconventional solutions, such as the impact of growing trees and the lifestyle practices of certain ascetics who minimize energy use. He stressed the significance of incorporating philosophical and environmental considerations into the approach to climate change, urging a holistic perspective on human existence within the ecosystem.

Mr. Arjun further asked Prof. Dhariwal, "**How can IIT Delhi contribute to the goal of creating 50 impactful climate companies within the next two years? Specifically, what existing initiatives are in place, and how can IIT Delhi collaborate with organizations like SusMafia and the Sustainability Ventures program to turn these aspirations into reality?"**



Prof. Dhariwal highlighted the uniqueness of IIT Delhi, particularly its strong entrepreneurship ecosystem, evidenced by a significant number of unicorns originating from the institute. He mentioned the current emphasis on sustainability within the curriculum, aiming to integrate it into every course offered at IIT Delhi. The current director, an energy sustainability advocate, is leading a curriculum review with a focus on sustainability, flexibility, and

project-based learning. He acknowledged the evolving mindset at IIT Delhi, recognizing the importance of sustainability and entrepreneurship, and expressed optimism that initiatives like sustainability ventures could expedite progress in these areas.

Mr. Arjun further asked Mr. Vimal Katiyar, **“What is your personal relationship with sustainability and new venture creation? Have you had any history or inclination towards these areas? Given your experience across three IITs and the Technical University of Denmark over the past decade or two, do you observe a gap between existing technologies in these institutions, particularly those relevant to sustainability, and their transformation into viable businesses?”**

Prof. Vimal Katiyar, IIT Guwahati, shared insights into the institute's commitment to sustainability. He discussed the establishment of a centre of excellence on sustainable polymers in 2013, mandated by the Indian government to develop bio-based and biodegradable plastics. Highlighting IIT Guwahati's proactive approach, he mentioned the introduction of academic programs focused on sustainable polymers, making it the first institute in India to offer courses on sustainable development goals at the undergraduate level. Prof. Katiyar emphasized the need for an interdisciplinary approach to sustainability, integrating social, economic, and environmental aspects in technology development. He highlighted the importance of holistic thinking, considering carbon footprints, and shifting from cradle-to-grave to cradle-to-cradle approaches in technology assessments. He also stressed on the necessity of changing stakeholder mindsets for sustainable technology adoption and the transition from curiosity-driven to demand-driven research for societal impact.

Mr. Arjun requested Mr. Tarun Gangwar to provide his views on the Sustainability Ventures program.

Mr. Tarun Gangwar, emphasized the need to create personal incentives for individuals to engage in sustainability initiatives. He shared insights into Masters Union's Venture Initiation Program, where 50% of credits are earned through out-of-class activities, including creating ventures. Tarun highlighted the challenge of mainstreaming sustainability as a profitable venture rather than solely a social cause. He discussed the Venture Initiation Program's success in various sectors but noted a lack of large-scale companies in climate tech. To address this, he introduced the Sustainability Ventures program, aiming to break inhibitions, foster collaboration, and provide an unstructured ecosystem for students to explore sustainable entrepreneurship. Mr. Tarun emphasized the importance of dispelling inhibitions around sustainability

entrepreneurship, particularly the misconception that deep technical expertise is necessary. He stressed the collaborative nature of disrupting industries, encouraging students to collaborate and leverage ecosystem support. Additionally, Tarun highlighted the upcoming mixer at Masters Union, where students will interact with VCs and founders interested in climate tech. This initiative aims to create awareness and interest in the climate tech space among students, breaking the barrier of market perception and fostering an environment conducive to sustainable entrepreneurship.

Mr. Arjun further posed a question to Mr. Sachin, **“How does BITS Pilani envision becoming a prominent hub for sustainability venture creation in the next two years, and what are your sentiments about the collaborative partnership in this endeavour?”**

Mr. Sachin Arya emphasized the challenges faced in creating ventures in climate action, particularly in deep technical areas like climate tech. He highlighted the need for skills, knowledge, guidance, and funding for sustainability ventures, noting the government's support through grants but stressing the lack of mentoring. Mr. Sachin expressed optimism about the Sustainability Ventures program providing access to experts and mentors, facilitating opportunities for students to address climate-related problems. He discussed the importance of this program in creating a cadre of entrepreneurs dedicated to making a positive impact on climate change. In addition, he shared insights from a similar course at BITS, emphasizing the prevailing trend of funding in software-based startups. He acknowledged the significance of addressing environmental challenges, even though solutions in areas like biotech or engineering might require more time. Mr. Sachin outlined the program's role in creating a conducive environment for students to receive guidance, funding, and internships, ultimately fostering a capacity for tackling climate change issues in the long term.

Mr. Arjun then asked Ms. Shreyashee Das, **“How do you envision your collaboration with the Sustainability Ventures program, particularly concerning new companies emerging from universities like Masters Union and BITS? In what capacity do you see yourself engaging with these ventures, and at what stage of their development do you believe your involvement would be most impactful? Additionally, how do you plan to enable and support these companies and their plans as they progress through their entrepreneurial journey?”**

Ms. Shreyashee talked about Sangam Ventures, a clean tech incubator and climate change fund, with over five years of experience in supporting more than 200 companies in

the climate space. Emphasizing a focus on both software and hardware technologies, Sangam primarily invests in the hardware space, particularly in energy transition. They have expanded their scope to include areas like land restoration, soil carbon sequestration, and circular economy initiatives. Sangam engages with founders from the early stages, offering support in building prototypes, forming companies, identifying target customers, and achieving product-market fit. Ms. Shreyashee highlighted the importance of early engagement with students, intending to instill a climate-centric mindset from an early stage and expressing readiness to support programs like the Venture program for students.

Following the panel discussion, Mr Arjun organized an interactive session for the audience and panelists focused on engaging participants in key aspects of the Sustainability Ventures Program. He outlined four thematic groups, each addressing critical elements: Problem Statements, Mentorship, Funding, and Personal Participation. Participants were encouraged to join the group that aligns with their expertise or interest. The Problem Statement group, aimed to curate real-world challenges. The Mentorship group focused on the need for guidance in forming and developing sustainable ventures. The funding group explored ways to bring financial support at different stages.

Outcomes

- **Identification of Key Problem Areas:** The session resulted in the identification of critical problem areas, including mainstreaming hydrogen use, affordability of renewables, rainwater harvesting simplification, climate education, and innovative solar UV lamp solutions.
- **Formation of Mentorship Network:** A mentorship network was initiated, comprising individuals from diverse backgrounds, including BITS Pilani Alumni, an investment banker, and a chartered accountant, all committed to providing guidance and support to sustainability ventures.
- **Strategic Funding Approaches:** The funding group proposed strategic approaches, emphasizing the need for dedicated funding during the transitional phase for budding entrepreneurs. Recommendations included leveraging philanthropic funds, exploring CSR initiatives, and tapping into government schemes and grants.
- **Collaboration with Incubators:** Participants highlighted the importance of collaboration with incubators and industry associations like Indian STEP and Business Incubators Association to access

financial resources, grants, and additional support for sustainability ventures.

- **Commitment to Social and Environmental Impact:** The discussions emphasized the significance of promoting social entrepreneurship models that prioritize environmental sustainability, aligning profitability with positive impacts on society and the environment.

Recommendations

- **Promote Social Entrepreneurship for Environmental Impact:** Encourage social entrepreneurship models that prioritize environmental sustainability alongside profitability, attracting founders and investors committed to making a positive impact on the environment and society.
- **Address Regional Environmental Challenges:** Stimulate the creation of startups that address specific environmental challenges in different regions, tailoring solutions to meet the unique needs of each geographical area.
- **Encourage Interdisciplinary Startup Teams:** Promote interdisciplinary collaboration within startup teams, encouraging founders to build teams with diverse expertise, combining technological innovation with business acumen.
- **Advocate for Policy Support:** Work towards advocating policy support for sustainability ventures. This involves engaging with policymakers to create an environment that fosters innovation in the sustainability sector. Encouraging policies that provide incentives, funding, and a supportive regulatory framework can significantly contribute to the success of sustainability-focused startups.
- **Promote Long-Term Sustainability in Ventures:** Encourage startups to incorporate long-term sustainability goals in their business plans. This includes considering the environmental impact, resource consumption, and ethical practices throughout the lifecycle of the venture. Investors and mentors should actively support startups committed to sustainable practices, contributing to a more environmentally conscious entrepreneurial landscape.



Thematic Session

9



EDUCATION CHALLENGE TO EMBED ECOSYSTEM RESTORATION INTO EDUCATIONAL SYSTEM WORLDWIDE

Background

The UN Decade on Ecosystem Restoration is a rallying call for the protection and revival of ecosystems all around the world, for the benefit of people and nature. It aims to halt the degradation of ecosystems and restore them to achieve global goals. Only with healthy ecosystems we can enhance people's livelihoods, counteract climate change, and stop the collapse of biodiversity.

The UN Decade runs from 2021 through 2030, which is also the deadline for the Sustainable Development Goals (SDGs) and the timeline scientists have identified as the last chance to prevent catastrophic climate change.

Led by the United Nations Environment Programme (UNEP) and the Food and Agriculture Organization of the United Nations (FAO), the UN Decade is building a strong, broad-based global movement to ramp up restoration and put the world on track for a sustainable future. That will include building political momentum for restoration as well as thousands of initiatives on the ground.

Objectives

- To raise awareness about the United Nations Decade on Ecosystem Restoration (2021-2030) and the Education Challenge 6.1, which aims to embed ecosystem restoration education into education systems worldwide by 2030.
- To illustrate how an ecosystem restoration project looks on the ground by presenting the work of Namami Gange UN Decade flagship initiative.

Moderator

Ms. Radhika Suri, Senior Programme Director, Global Networking and Early Childhood Education, CEE

Speakers

- Mr. Oisín Gill, Consultant, Education for Sustainable Development, UNESCO
- Dr. Harcharan Singh, Co-Lead Biodiversity, Afforestation, Wetland Conservation, National Mission for Clean Ganga (NMCG)
- Mr. Sunil Kumar, Environment Engineer, NMCG
- Mr. Arnaud Macià Pou, Coordinator and Project Manager, FEE

Summary of the Presentations and Discussions

Mr. Arnaud Macià Pou

He presented highlights on UN decade of Ecosystem Restoration. He also underscores the importance of The UN Decade on Ecosystem Restoration's Action Plan identifying 12 priority areas and 30 Restoration Challenges for achieving the UN Decade's goals. Among the 30 Restoration Challenges lies the Education Challenge 6.1, which aims to embed ecosystem restoration education (ERE) into formal and non-formal education systems worldwide by 2030 as a critical element of Education for Sustainable Development (ESD).

Mr. Oisín Gill

In his presentation he talked about the importance of embedding ecosystem restoration education (ERE) in diverse lifelong education context. He further emphasized that ERE focusses on allowing students to actively participate in the alteration/restoration of ecosystems,

learnin through sensory experiences in addition to what will be taught through theoretical approaches.

Dr. Harcharan Singh

Sharing the case study of Namami Gange Project , Dr Harcharan Singh shared that how the Population growth, industrialization and irrigation have degraded the Ganges River along its arcing 2,700-kilometre course from the Himalayas to the Bay of Bengal. Climate change poses a grave additional threat. He further emphasized that restoring the Ganges, India's most sacred river, is expected to bring a wide range of benefits to millions of people living in its vast basin and safeguard their deep spiritual and cultural connection with its waters. He further elaborated that the government-led Namami Gange initiative has invested in waste management and water treatment, while raising public awareness and engaging communities in ecosystem conservation and restoration. The flagship is reforesting parts of the Ganges basin and promoting sustainable farming. It also aims to revive key wildlife species, including river dolphins, softshell turtles, otters and the hilsa shad, an important food fish. He shared that Namami Gange initiative has been recognised as one of the top 10 world restoration flagship initiatives in COP 15 (Biological Diversity).

Mr. Sunil Kumar

Continuing with the presentation on Namami Gange Mr. Sunil Kumar shed light on the formation of Ganga Task force (GTF) with the aim to protect River Ganga . Head Quartered in Prayagraj, GTF was formed in 2016-2017 by NMCG and Ministry of Defence. The main activities of this task force are plantation of trees to check soil erosion, management of public awareness and participation campaigns, patrolling of sensitive river areas, patrolling of ghats, monitoring of river pollution, assist during flood/ natural calamity.

The session was led by the Foundation for Environmental Education (FEE), the North American Association for Environmental Education (NAAEE), and UNESCO, the session brings in the insights on how Education Challenge

requires the collective effort of governments, educators, students, and communities worldwide to embed ecosystem restoration into our education systems. By doing so, we can create a future where every individual has the knowledge and skills to protect and restore our planet's ecosystems, ensuring a healthy and sustainable future for generations to come.

Outcomes

- Awareness on Global Initiative for Ecosystem
- Case study and knowledge sharing on the outcomes of Namami Gange Initiative through holistic Ganges Restoration

Recommendations

Collaborative Approach: Achieving the UN Decade Goal requires collaboration from diverse entities, including Member States, local governments, the private sector, academia, civil society, and individuals.

Critical Role of Education: Education is identified as a crucial tool for realizing the UN Decade's vision. It holds transformative power, informing, inspiring, and influencing attitudes. It serves as a motivator for action, making the Education Challenge (6.1) vital for empowering the next generation in ecosystem restoration.

Empowering Nature Restorers: The Education Challenge 6.1 aims to empower the next generation of nature restorers. By fostering education on ecosystem restoration, it contributes to building a community that can actively engage in and drive sustainable solutions.

Call for Involvement: encourage individuals involved in ecosystem restoration projects and ecosystem restoration education to participate. The suggested action is to fill out the Mapping & Collaboration survey Mapping & Collaboration survey , emphasizing the importance of collective engagement in meeting the goals of the UN Decade.



5th International Conference on Sustainability Education

Theme: Education for Climate Action and Sustainability

September 19 & 20, 2022 | India Habitat Centre, New Delhi, India



Thematic Session

10



SUSTAINABILITY EDUCATION - ROLE OF SCHOOLS, COLLEGES AND UNIVERSITIES

Background

In a broad sense, "Sustainability" was defined as a social goal about the ability of people to coexist on Earth over a long time. In the contemporary time when climate change and environmental pollution transformed the way of human life, it is essential to draw the attention of a larger population towards sustainable practices. For the successful implementation of this mission, the concept of sustainability and sustainable practices needed to be inculcated into the minds of the younger generation at an early stage. Therefore, it was of utmost importance that the curriculum and respective pedagogy were developed systematically to attract the younger generation. In the present thematic session, experts from different working groups (technical experts, school/college teachers, and policymakers) came together to brainstorm on the concept of sustainability in education.

The session hosted four technical lectures (30 min each) on the proposed thematic topic Sustainability Education – Role of University, College, and Schools followed by a panel discussion with the experts.

Objectives

- To bring the experts from different working groups to a common platform
- To understand the promoters and constraints of the induction of sustainability education at various levels,
- To deliberate, debate, and propose tangible goals for the sustainability education sector.

Moderator

Dr. B.C. Sabata, Associate Director (R & D), KIIT (Deemed University), Odisha, India

Speakers

- Dr. Suraj K. Tripathy, Associate Dean, School of Chemical Technology, KIIT Deemed University, Bhubaneshwar, Odisha, India
- Dr. Hiroko Shibakawa, Assistant Professor, ESD Promotion Centre Graduate School of Education, Okayama University, Japan
- Dr. Subrat Kumar Panigrahi, Principal, Saraswati Degree Vidya Mandir, Berhampur, Odisha, India
- Mrs. Shailendra Kumari, Principal, ODM School, Odisha, India
- Mrs. Rashmi Raj Biswal, Principal, of DAV School, Pitampura, New Delhi, India
- Dr Monika Mehen, Principal, DAV School, Dwarka, New Delhi, India
- Dr. Sankar Narayan Bej, Principal, Khandadeuli High School, Odisha, India

Summary of the Presentations and Discussions

Dr. B.C. Sabata warmly welcomed the experts presented them with souvenirs, and welcomed all participants to the session. Dr. B. C. Sabata started the discussion on sustainability education and the role of educational institutions. He stressed the importance of incorporating sustainability education into the curriculum. After that, he opened the floor for the panel to speak.

Dr. Suraj K. Tripathy, Associate Dean, School of Chemical Technology, KIIT Deemed University,

emphasized the evolving role of universities in the context of sustainability education. He stressed the need to consider employment opportunities for students, viewing them as future technicians, engineers, scientists, and policymakers. Dr. Tripathy advocated for a holistic approach, urging collaboration between polluting industries and environmental advocates to find practical solutions rather than a complete cessation of practices. He highlighted the importance of training educators comprehensively, introducing project-based learning at the grassroots level, and enhancing awareness about environmental policies. Dr. Tripathy called for a collaborative effort among universities, industries, and students to induce sustainable ideas, acknowledging that while changes may not be immediate, they can lead to a profound and holistic transformation over time.

Dr. Hiroko Shibakawa, Assistant Professor, ESD Promotion Centre Graduate School of Education, Okayama University, Japan, shared insights into Japan's approach to sustainability education, emphasizing the concept of community schools. In Japan, the government designated schools as regional centres to promote Education for Sustainable Development (ESD). Dr. Hiroko's university played a crucial role in supporting UNESCO Associated schools in their ESD practices. She highlighted the challenge of passionate teachers facing competition and academic-centric environments. To address this, her university focuses on fostering collaboration among schools, encouraging them to share initiatives and insights. Dr. Hiroko stressed the importance of continuous training for teachers, providing academic advice on ESD, and reinforcing a whole-school approach. She emphasized the impact one teacher can have on students and advocated for a supportive community to drive environmental initiatives. In conclusion, she urged for simplicity and collaboration to make a significant impact on students and the Earth.



Dr. Subrat Kumar Panigrahi, Principal, Saraswati Degree Vidya Mandir, Berhampur, Odisha, Expert in College Education, highlighted the pivotal role of colleges

as a middle ground between schools and universities. He emphasized the implementation of the Choice-Based Credit System (CBCS) in environmental science courses, where students actively engage in projects addressing climate crises. Dr. Panigrahi discussed various initiatives in his college, including the celebration of events like Wetland Day and Forest Day, organizing marathons, and conducting Plantation Drives. Notably, he shared a unique approach of gifting plants instead of polythene-wrapped presents during functions, promoting a green mindset among guests. The college serves as an energetic platform for students to innovate, participate in environmental projects, and contribute to sustainability, aligning with the evolving syllabus of the government.

Mrs. Shailendra Kumari, Principal, ODM school, Bhubaneswar, an Expert in School education, focused on the Role of Youth in bringing sustainable education. She elaborated on the subject of sustainability education and advised the youth to adopt sustainability in their life.

Mrs. Rashmi Raj Biswal, Principal, DAV School, Pitampura, Delhi, focused on the Role of Youth in bringing sustainability education. She spoke about the role of CBSE, UGC, and other regulatory agencies. The regulatory body should monitor regularly the implementation of sustainability education in schools, colleges, and universities.

Dr. Monika Mehen, Principal, DAV School, Dwarka, Delhi, an Expert in School education, provided a school-level perspective on sustainability education. She spoke about the subject and emphasized the need for it in the school curricula.

Dr. Sankar Narayan Bej, Principal, of Khandadeuli High School, Ganjam, Odisha, talked about sustainability education and its application. He advised all the students to adopt the principles of sustainability education in their lives as well.

Taking the session further, Dr. Sabata opened the floor for suggestions and experiences about sustainability approaches.

Dr. Ramani, from Delhi University, emphasized the need for effective learning methods in environmental education, expressing concern about students merely copying projects from the internet without grasping the practical applications. He highlighted the importance of bridging the gap between theoretical knowledge and practical implementation, particularly focusing on solving local issues like waste management, wastewater treatment, biodiversity loss, and soil-related problems. Dr. Raman spoke about the necessity for training learners at the university level and creating platforms for discussions

and collaborations, echoing the sentiment that mass participation is crucial for the success of sustainability education initiatives. He encouraged a shift in approach to engage students more actively in environmentally friendly activities and projects, emphasizing the collective responsibility of teachers and the institution as a whole in fostering a culture of sustainability.



Dr. Monica from Miranda House College, New Delhi shared the institution's significant strides toward environmental sustainability. She highlighted the strong Vatavaran society, encompassing botany and life sciences, which actively engages in various eco-friendly projects. Miranda House boasts a paper recycling plant, transforming generated paper waste into reusable resources, making it a zero-paper-based campus. Additionally, the college's composting unit converts waste into compost, ensuring a zero-waste environment. With a solar-powered campus, the college emphasizes renewable energy sources. Dr. Monica commended the students, particularly in an all-girls college, for their heightened environmental awareness and active participation

in initiatives like cleanliness drives and plastic-free campaigns. Despite acknowledging ongoing challenges, such as energy conservation habits, Miranda House College remained committed to sustainable practices and strove for continuous improvement.

Outcomes

- Awareness about the importance of SDGs into the minds of the younger generation through their peers.
- Roadmap for the induction of sustainability education into the curriculum.
- Facilitate the industry/academia interaction to work jointly and in a holistic manner on sustainability.

Recommendations

- Integrate sustainability concepts into early education to foster responsibility and awareness among youth.
- Foster collaborative platforms among technical experts, teachers, and policymakers for a unified approach to sustainability education.
- Develop engaging curricula to attract students to sustainable practices and emphasize project-based learning.
- Provide continuous training for teachers in Education for Sustainable Development (ESD) practices.
- Recognize colleges as intermediaries for implementing initiatives like the Choice-Based Credit System (CBCS).
- Advocate for regulatory oversight to ensure effective implementation of sustainable education.
- Design a roadmap for sustainability education with a focus on tangible outcomes.
- Facilitate industry/academia collaboration to drive progress in sustainability education.



Thematic Session

12

**SCIENCE, TECHNOLOGY AND INNOVATION
FOR SUSTAINABLE LIVING**

Background

The ecological backlash of unsustainable development by humans is manifested through pollution, climatic calamities, degradation of natural resources which, in turn, influence the overall quality of life. One of the main reasons for such deleterious effect is due to human activities driven by enhanced & unsustainable consumption patterns. In this context, there is a global consensus for rethinking and redesigning of our thought processes, values and activities that aim for 'Sustainable Living' through reducing demand of the human being on natural resources by participation of all, both at personal and community levels, with suitable replacement(s)/alternative(s). This is also manifest in the Mission LiFE of Govt. of India.

Students today can shape the world of tomorrow by driving innovative solutions to the challenges our world is facing. PGSC is working relentlessly for creating scientific temper and environment awareness among the students so that the benefits of S&T and the understanding of Sustainable Development percolate to the masses. PGSC proposes to organize "Innovation for Sustainable Development Challenge" in collaboration with National Museum of Natural History, New Delhi (for which talks have been initiated) at the "5th International Conference on Sustainability Education (ICSE)".

Objectives

- To motivate children to apply scientific understanding in day-to-day decision-making and design and develop approach and / or solution for tapping potentials and overcoming the challenges.

- To encourage children to take transformative initiatives to community and society.
- To encourage children to visualize the future of the country and help building generations of sensitive, responsible citizens.

Moderator

Dr. Loveleen Brar, Scientist C, Pushpa Gujral Science City

Session Chair

Ms. Namita Gupta, Adviser/Scientist-G & Head of "Innovation in Science Pursuit for Inspired Research (INSPIRE), DST, Govt. of India

Speakers

- Dr. Neelima Jerath, Director General, Pushpa Gujral Science City
- Mr. Shubham Tandon, Project Officer Resilience, Action for Climate & Environment (ACE) Unit, UNDP, New Delhi

Jury

Dr. C. R. Mangesh, Scientist at Ministry of Environment, Forests & Climate Change, Govt. of India

Session Overview

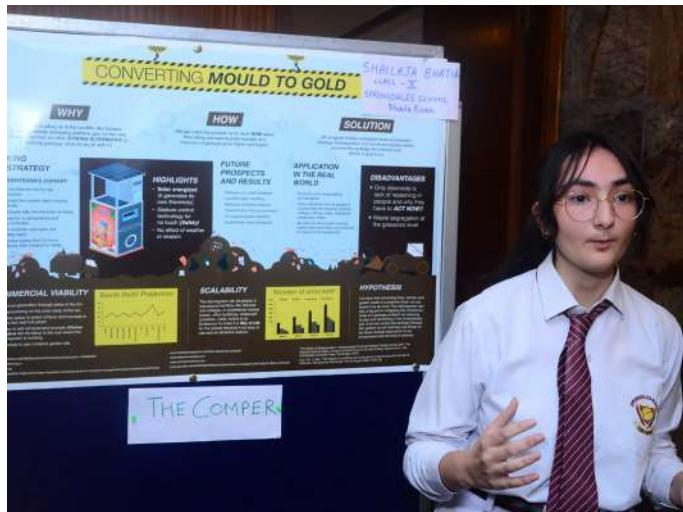
Schools from Punjab, Haryana, and Delhi participated in a session organized by Pushpa Gujral Science City (PGSC). The session aimed to showcase innovative projects aligned with Sustainable Development Goals (SDGs), particularly SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), and SDG 13 (Climate Action).



Project Submission and Selection

PGSC issued a call for innovative projects on the specified SDGs, receiving an impressive response of over 250 projects. Multiple rounds of screening were conducted to evaluate the projects, resulting in the shortlisting of 30 projects for further consideration. These 30 projects were showcased through poster presentations during the session.

All participating students and Teacher Mentors were awarded Certificates of Participation in recognition of their contributions to the session.



WINNERS

1st Prize

Harmandeep Kaur

School: GSSS Jabbowal

Project Name: Cost Effective Biocooker

Cash Prize: Rs. 5000

2nd Prize

Amit Kumar & Dipanshu Sehrawat

School: Army Public School, Hissar

Project Name: Aero Radiant Project

Cash Prize: Rs. 3000

3rd Prize

Gurshaan Singh & Shubham Arora

School: Oxford Public School, Bathinda

Project Name: Carbon Di Oxide observer

Cash Prize: Rs. 2000

APPRECIATION PRIZES

Gauri Batra

School: KV SPG Dwarka, New Delhi

Project Name: Intelligent Dustbin

Cash Prize: Rs. 1000

Vidi Aswani & Arav Tanwar

School: Springdales Public School, Daula Kuan, New Delhi

Project Name: Solution to Pollution

Cash Prize: Rs. 1000



Summary of the Presentations and Discussions

The session on “Science, Technology, and Innovation for Sustainable Development Living” at the 5th International Conference on Sustainability Education was a comprehensive and enlightening event. The discussions and presentations delved into various aspects of sustainable development, with a particular focus on the role of science, technology, and innovation in shaping a more sustainable future.

The chief guest, Mrs. Namita Gupta, and the expert speaker, Mr. Shubham Tandon, provided valuable insights into the importance of sustainability education and the need for innovative solutions to address global challenges. Their perspectives added depth to the discussions, emphasizing the interconnectedness of environmental, social, and economic factors.



Key Highlights

Alignment with Sustainable Development Goals (SDGs): The session highlighted the relevance of sustainable development goals, particularly focusing on SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), and SDG 13 (Climate Action). The projects presented by students demonstrated their commitment to finding innovative solutions within these themes.

Energy Conservation and Clean Energy: Affordable and clean energy emerged as a crucial theme, emphasizing the need for widespread access to renewable and clean energy sources. The projects showcased likely touched upon innovative solutions in the realm of energy conservation and sustainable practices.

Innovation and Education: The session underscored the importance of fostering innovation and education in

achieving sustainability goals. The projects presented by students reflected their dedication and creativity in addressing challenges related to clean water, energy, and climate action.

Recognition and Awards: Outstanding projects were recognized and awarded, serving as an encouragement for the participants to continue their efforts in contributing to a sustainable future. The involvement of experts, educators, and students from various regions demonstrated a collective commitment to sustainability education.

Insights from Expert Speakers: Dr. C.R. Magesh and Dr. Neelima Jerath delivered comprehensive presentations on Sustainable Development Goals (SDGs) and the relevance of individual and collective efforts in achieving them. The speakers covered various SDGs, emphasizing poverty alleviation, education, clean energy, and climate action.

Interactive Discussions: The interactive approach of Mr. Shubham Tandon engaged the audience in discussions on climate change, its causes, impacts, and global climate agreements. The session facilitated a deeper understanding of the challenges and opportunities in sustainable living.

Global Initiatives and Collaborations: The discussions highlighted India's commitments to renewable energy, disaster risk reduction, and climate action. International initiatives, such as the International Solar Alliance and Coalition for Disaster Resilient Infrastructure, demonstrated collaborative efforts with numerous countries.

In conclusion, the session provided a platform for meaningful discussions and showcased the potential of science, technology, and innovation in addressing pressing global challenges. The collaborative efforts of experts, educators, and students reflected a collective commitment to fostering sustainable living through education and innovation. The event served as a catalyst for inspiring future generations to contribute to a more sustainable and equitable world.

Outcomes

- **Emphasis on SDGs:** The session underscored the importance of aligning projects and initiatives with Sustainable Development Goals (SDGs), specifically highlighting themes related to clean water, affordable and clean energy, and climate action.
- **Innovative Solutions:** The event showcased innovative projects by students focusing on energy conservation, clean energy, and sustainable practices,

emphasizing the role of innovation in addressing environmental challenges.

- **Role of Education:** The discussions highlighted the crucial role of education in achieving sustainability goals, with a focus on fostering creativity and dedication among students. The recognition and awards served as encouragement for continued efforts.
- **Global Collaborations and Initiatives:** The session shed light on global initiatives and collaborations, emphasizing India's commitments to renewable energy, disaster risk reduction, and climate action. The International Solar Alliance and Coalition for Disaster Resilient Infrastructure exemplified collaborative efforts with other nations

Recommendations

- **Integrate Sustainability Education into School Curricula:** governments and educational institutions should globally integrate sustainability education into school curricula. This integration should focus on fostering scientific approach, environmental awareness, and innovative thinking among students.
- **Establish Regional Innovation Hubs for**

Sustainable Solutions: establish regional innovation hubs focused on sustainable solutions. These hubs can serve as collaborative spaces where students, scientists, and communities come together to ideate, develop, and implement innovative projects. Governments and organizations can support these hubs by providing resources, mentorship, and funding, fostering a culture of continuous innovation for sustainable development.

- **Promote Multidisciplinary Approaches and Cross-Sector Collaboration:** Governments, NGOs, and educational institutions should encourage cross-sector collaboration, ensuring that diverse perspectives contribute to comprehensive and holistic solutions. Initiatives like the “Innovation for Sustainable Development Challenge” should serve as models for fostering collaboration and knowledge exchange between different sectors, ultimately enhancing the effectiveness of sustainability initiatives.





Thematic Session

13

EMPOWERING CONSERVATION THROUGH CITIZEN SCIENCE: ENGAGING COMMUNITIES FOR A SUSTAINABLE FUTURE

Background

In our fast-changing world, the responsibility for caring for the environment is shared by educators, education boards, parents, students, and citizens alike. Citizen science offered non-specialists the chance to connect with, explore, and learn from nature, simultaneously contributing to scientific research led by professionals. Through the collection of species observations and other data, citizens supported scientists in data collection and contributed to conservation efforts. Citizen science has played a crucial role in engaging young people with nature, enhancing their scientific knowledge, and instilling a sense of responsibility for the environment. The session aimed to explore the significance of citizen science in conservation, delving into how its revolutionized data collection, research, and community engagement. Using WWF-India's citizen science initiatives as examples, the session showcased the impact of citizen science on conservation outcomes, how it empowered individuals to actively protect their natural surroundings, and the opportunities available for people to engage in citizen science projects.

Objectives

- Understanding Citizen Science: Explore what citizen science is and how it has evolved. Learn why it matters for safeguarding nature and how it is used in conservation work.
- Getting Involved: Explain how everyday people help by collecting important information and adding to what we know about nature. Explore how various conservation organizations, scientists, and local communities can work together to protect nature

completely.

- Examples of Success: Showcase examples of successful citizen science projects, such as the Dragonfly Festival and biomonitoring surveys.
- Existing Citizen Science Tools: Discover citizen science websites like eBird and India Biodiversity Portal. Understand how these tools have been used to report on local environmental issues and suggest practical solutions.

Moderator

Ms. Neha Raghav, Director at WWF

Speakers

- Ms. Shonali Chenzira, Senior Manager, Environment Education
- Ms. Amreen, Lead of European Citizen Engagement Program, WWF India
- Ms. Priyanka Singh, Monitoring and Evaluation, WWF India

Summary of the Presentations and Discussions

Ms. Neha Raghav from WWF India discussed the WWF's mission to stop the degradation of the planet's natural environment and promote a future where humans live in harmony with nature. She emphasized the critical role of education and awareness in achieving conservation goals, citing a lack of these as a major impediment to progress. Ms Raghav highlighted the significance of formal education systems. She discussed the Nature Clubs program, the Eco Club movement by WWF, and the challenges in measuring the impact of these initiatives.

She introduced six pillars of sustainability education that cater to different audiences and outlined the need for reimagining education in the face of changing learning environments and technological advancements. The formal education system involves building teachers' capacity, infusing environmental themes into school curricula, and incorporating sustainability practices within school operations. Ms. Raghav stressed the importance of tangible results, such as showing students the environmental and financial impact of their actions, particularly in school estate enhancement initiatives. WWF's youth program, People for Planet, encourages young individuals to contribute to environmental projects during weekends, fostering a sense of responsibility. During the discussion, she mentioned Echo clubs - a collaborative innovation project with colleges, as well as various programs, workshops, and courses for children and youth to get in touch with nature. WWF's Wild Wisdom Global Challenge, which has been running since 2008, encourages students to take environmental action by earning "Yaka Money" for their positive contributions. Additionally, the One Plan Academy provides a digital resource center, while Green Literature focuses on developing publications and establishing green libraries. Ms. Raghav, emphasized the importance of true environmental education, beyond textbook knowledge, to build awareness, attitudes, and positive actions. She discussed the goals of monitoring and evaluation in the context of a theory of change chart, emphasizing data-driven outputs to measure the impact of interventions. The presentation concluded with a reference to the 17 Sustainable Development Goals, serving as a blueprint for a sustainable future by 2030.

During the event, Priyanka, from WWF India, presented a case study to help the audience gain a deeper understanding of the different programs of the organization that emphasize environmental education and dedication to making a positive impact toward a sustainable planet.

Ms. Priyanka focused on the importance of monitoring and evaluation in the context of environmental education programs. The primary goal is to understand the

impact and scalability of these programs. Ms. Priyanka emphasized the need for evaluations to be replicable, measurable, and impact-oriented. She explained that the evaluation process is crucial for developing programs that can be scaled up nationwide. The criteria for evaluation include assessing whether the program is replicable in different locations and whether it is measurable in terms of its impact. She highlighted the importance of numbers in impact assessment, stating that donors often require measurable indicators to understand the effectiveness of a program. Ms. Priyanka underscored the significance of impact-oriented programs, linking it back to measurability. She stated that being able to showcase a program's positive impact is essential for influencing policy changes and garnering support for environmental education. To illustrate the need for evaluation, she invited opinions on the current state of environmental education in schools.



Ms. Priyanka also emphasized the role of evaluation in making environmental education a priority, showcasing its impact, and advocating for policy changes to integrate it more deeply into the education system. She discussed the crucial aspects of conducting evaluations with a multi-stakeholder approach, emphasizing a 360-degree view of the situation. In the context of WWF's evaluations, this involves gathering feedback from various stakeholders to gain a comprehensive understanding. She outlined the necessity of evaluating at different levels when multiple stakeholders are involved in a program. When working on teacher orientation and capacity building, evaluations should assess the impact on teachers. Similarly, for students, who are considered change-makers, evaluations should focus on changes in behavior, attitude, and actions related to environmental conservation.

Ms. Priyanka delved into the key elements measured in environmental education evaluations, such as knowledge, awareness, attitude, skills, and behavior change. She emphasized the importance of creating measurable



indicators to showcase the positive impact of the program. The need for a 360-degree approach was illustrated through a case study of the Prithvi Model School project, which aims to bring about transformation in schools, involve children in conservation leadership, and build teachers' capacity. Ms Priyanka, also shared challenges faced during evaluations, including the need for simplicity in tools, addressing social biases, dealing with variations in data sets across different regions, and the importance of representative sampling for impactful results. Ms. Priyanka highlighted the difficulty of studying behavior change in a limited time frame, suggesting that a more longitudinal study is essential for a comprehensive understanding. In conclusion, Ms. Priyanka stressed the importance of continuous engagement beyond a year, especially in cases where the organization may exit from a school intervention. This ensures that the positive behaviour changes initiated by the program are sustained, even after the organization's involvement concludes. Overall, the presentation provided insights into the complexities and nuances of conducting effective evaluations in the field of environmental education.

During the insightful discussion led by **Ms. Neha** on the intersection of nature connection and citizen science in environmental education, Ms. Shonali Chenzira, Senior Manager of WWF's environment division, shared key perspectives. Heading the "Nature Connect" team at WWF, Ms. Shonali highlighted initiatives fostering citizens' connection with nature through diverse pedagogies such as nature trails, camps, workshops, and biodiversity festivals. She defined citizen science as the collection of data by citizens through various apps and platforms, emphasizing its role in democratizing scientific access. Challenging stereotypes, she introduced citizens as scientists.



Notable citizen science apps in India were discussed, including iNaturalist and eBird. The significance of longitudinal studies, engagement themes, and the valuable contributions of citizen science data to scientific research, conservation, policy advocacy, and education were

emphasized. The annual State of Indian Birds report, based on citizen science data, exemplified the transformative impact of citizen science in shaping scientific knowledge and influencing environmental practices. The Miner web platform associated with the report provided valuable insights into bird migration patterns. Overall, Ms. Shonali's presentation highlighted the empowering role of citizen science, enabling ordinary citizens to play a significant part in scientific research and environmental conservation.

During her presentation, **Ms. Amreen** from WWF's emphasized the effective utilization of citizen science to involve individuals of all ages in environmental initiatives. The inclusivity of citizen science was highlighted, dispelling the notion that it is exclusively for the youth, as individuals as young as eight or ten were encouraged to participate. Various projects, such as the Heron Recount, Moth Monitoring Surveys, Asian Water Bird Census, Plastic Blitz, Marine Walks, and Wetland Biomonitoring, were detailed, engaging volunteers in bird counting, plastic collection, and marine life exploration.



The Plastic Blitz initiative, incorporating the Literati app, uniquely combined clean-up drives with data collection to hold businesses accountable for their waste. Marine Walks allowed volunteers to explore marine life while collecting shore waste, and Wetland Biomonitoring focused on crucial data collection for dragonflies and damselflies. The India Biodiversity Portal centralized and analyzed citizen-contributed data, notably showcased during the Dragonfly Festival. The People for Planet portal facilitated citizen science projects for individuals above 18, highlighting the versatility of citizen science, accessible to anyone with a mobile phone. Ms. Amreen also addressed the importance of data confidentiality and ethical considerations. The presentation concluded by demonstrating the Minor platform's data analysis capabilities and inviting the

audience to join WWF's initiatives, emphasizing the potential of citizen science as a powerful tool for scientific research and community engagement.

- Overall, the presentations underscored the importance of education, evaluation, and citizen engagement in fostering a sustainable future.

Outcomes

- Discussion included challenges, initiatives, and the need to adapt education to evolving learning environments.
- The six pillars of sustainability education were presented, emphasizing tangible results and showcasing impactful programs like People for Planet, Echo, and the Wild Wisdom Global Challenge.
- The importance of monitoring and evaluation was stressed, focusing on criteria, challenges, and a multi-stakeholder approach for effective evaluations.
- Continuous engagement beyond a year was emphasized to ensure sustained positive behavior changes.
- Insights into citizen science were shared, highlighting its empowering nature, inclusivity, and transformative impact on scientific research and environmental conservation.
- Versatile citizen science projects, from Plastic Blitz to Wetland Biomonitoring, demonstrated accessibility and potential.

Recommendations

- Integrate sustainability into formal education, highlighting tangible outcomes via Nature Clubs and Eco Clubs.
- Prioritize monitoring for scalability, with measurable indicators influencing policy.
- Use citizen science to engage all ages in environmental action through diverse initiatives.
- Stress longitudinal studies and engagement themes for impactful citizen science projects.
- Ensure sustained behavior change with ongoing engagement, addressing evaluation challenges and ethical considerations.



5th International Conference on Sustainability Education

Theme: *Education for Climate Action and Sustainability*

September 19 & 20, 2023 | India Habitat Centre, New Delhi, India



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Thematic
Session

14



ENGAGING YOUTH THROUGH EDUCATION & ADVOCACY FOR SOLUTIONS TO PLASTIC POLLUTION THROUGH UNEP'S TIDE TURNERS PLASTIC INITIATIVE

Background

The Tide Turner Plastic Challenge (TTPC) is an initiative by UNEP that engages youth from across 40 countries to tackle the issue of plastic pollution in oceans, rivers, and on land. It aims to educate young individuals on the harmful impact of single-use plastics and encourages them to take action to reduce land and marine plastic pollution. The initiative also aims to motivate them to change their behaviour and norms around plastic usage at both the individual and community levels.

TTPC is currently in its fifth phase in India and has seen participation from more than 5.5 lakh youth from all states of India since its initiation in 2019. The initiative has gained support from government authorities, youth organizations, and associations, becoming very popular among the youth. CEE India and WWF are the implementing partners for this initiative, and their contribution is vital to its success in India. The initiative's impact and learning are worth sharing, both in terms of concrete and measurable ground-level solutions and dissemination of knowledge and awareness at a mass scale in the community. The Tide Turner Plastic Challenge has taken a unique pedagogical approach that has largely contributed to its success.

Objectives

In this session jointly conducted by UNEP, CEE, and WWF at the 2023 ICSE, the aim was to:

- Present the rationale behind initiating the Tide Turner Plastic Challenge (TTPC) and its pivotal role in addressing plastic pollution.
- Discuss the format and pedagogical approach of

TTPC, emphasizing its effectiveness in engaging and educating youth.

- Showcase the qualitative and quantitative impact of TTPC, highlighting its success in driving tangible solutions.
- Explore solutions to combat plastic pollution through green entrepreneurship and opportunities for youth to engage in the waste management sector.
- Identify policy and systemic solutions, including interventions like Extended Producer Responsibility (EPR), to address urban waste management challenges, particularly focusing on areas like Delhi.

The session was conducted in collaboration with CEE and WWF. The event was divided into three parts, featuring, sharing experiences with the TTPC, panel discussions and expert presentations.

Summary of the Presentations and Discussions

PART I

Setting the Context

- Mr. Sam Barratt, UNEP Chief Youth, Education and Advocacy Unit, Nairobi, Kenya
- Dr. Sumit Sharma, Programme Officer, UNEP India

Ms. Arpan Singh, Youth Officer UNEP India, extended a warm welcome to the experts and participants for joining the session. She shared that the purpose and theme of the sessions were engaging youth through education and advocacy for solutions to plastic pollution through UNEP's Tide Turner's Plastic Challenge initiative. She showed the video to explain the importance of the transformative

impact of youth-led initiatives in India to combat the single-use plastic crisis. Over 600,000 young individuals had actively worked since 2018, fostering a paradigm shift in habits at the individual, community, and national levels. Through the “UNEP Tide Turner’s Plastic Challenge,” these youth had addressed diverse plastic issues, promoting awareness and implementing tangible solutions. Their efforts had led to cleaner ecosystems, reduced plastic usage, and policy changes. The success in India had prompted the global expansion of the initiative to 40 countries, emphasizing the ongoing need for collective action against the pervasive plastic problem.

Mr. Sam Barratt, gave an insightful address on the transformative journey of the Tide Turners plastic program. Initially sparked by former British Prime Minister Theresa May, the program, born out of Barratt’s connection to nature through scouting, aimed to empower youth to make a tangible impact on environmental issues, using plastics as a gateway. Barratt acknowledged the pervasive reach of plastic pollution, stressing its presence in every corner of the planet. He commended India for supercharging the initiative and highlighted its expansion to 50 countries. Barratt envisioned Tide Turners as a flexible, global norm, where young people were supported as change agents addressing the root causes of plastic pollution upstream. He underscored the need for young people to lead and shape the conversation, emphasizing peer learning, youth involvement in governance, and access to resources. The program’s success lay in its ability to evolve and inspire change at both individual and systemic levels.



Dr. Sumit Sharma, engaging in discussion, drew attention to the critical issue of plastic pollution, highlighting the staggering global production of nine billion tons of plastics, with only 10% being recycled. He emphasized the severe health impacts of plastic pollution, including the rise in cancers and various diseases, attributing these issues to the ingestion and inhalation of

plastic-contaminated particles. In the Indian context, he revealed the generation of approximately 3.4 million tons of plastic waste, with alarming implications for human health and urban infrastructure. Dr. Sharma underscored the environmental consequences, such as marine life entanglement and the presence of microplastics in animal reserves, indicating the pervasive nature of plastic in our ecosystems. Despite acknowledging the Indian government’s efforts, particularly the ban on selected single-use plastic items and extended producer responsibility on plastic packaging, Dr. Sharma stressed the need for enhanced capacities, business opportunities, and active involvement of young people and universities to effectively implement and monitor these policies on the ground. His passionate plea sought to excite and inspire action toward addressing the pressing issue of plastic pollution.

PART II

Tide Turner Plastic Challenge (TTPC) India, its impact pedagogical approach - strength and weaknesses.

Moderator

Ms. Arpan Singh, Youth Officer UNEP India

- Ms. Ambreen Khan, Project Manager, WWF
- Mr. Utsav Modi, Project Officer, CEE
- Mrs. Gayatri Raghwa, Environment Education expert, UNEP
- Dr. V A V Raman, Prof, Shaheed Bhagat Singh College, Directorate of Education, New Delhi
- Ms. Sneha Shahi, TTPC Ambassador and Ph.D. student

Ms. Arpan asked all the speakers to share their experiences with the Tide Turners program and how their organizations contribute to it.

Mrs. Gayatri Raghwa, in an enlightening presentation, delved into the unique aspects of the Tide Turners plastic challenge that set it apart and garnered immense support from the youth. With 44 years of experience in environmental education, she emphasized the thrilling nature of the challenge, making it exciting for both participants and organizers. The program’s flexibility, allowing participants from the age of 12 to 35, demonstrated its inclusivity and adaptability. Gayatri highlighted the diverse range of participants, including students, NCC members, academic researchers, rural individuals creating innovative solutions, and even professionals aiming to make their workplaces plastic-free. The challenge’s open structure, blending competition with a sense of purpose, provided students with a rewarding

experience. Gayatri underscored the importance of competition, excitement, and tangible rewards, such as the coveted badge, in engaging and motivating the youth to actively contribute to addressing the complex issue of plastic pollution.



Ms. Ambreen, from WWF, emphasized the organizational learnings from the Tide Turners program, underscoring the importance of collaboration and adaptability. She highlighted the necessity of reinventing the program continuously, incorporating feedback, and evolving to meet the dynamic needs of the youth. Ms. Ambreen stressed the significance of collaboration not only among implementation partners like UNEP and WWF but also with state governments, NCC, and various stakeholders across the country. The success and scalability of the program, reaching 50+ countries, were attributed to this collaborative approach, demonstrating the program's ability to adapt and stay relevant by actively engaging with partners, governments, and the youth themselves.

Mr. Utsav from CEE, shared insights into the Tide Turners program, emphasizing its inclusive nature that extended beyond traditional educational institutions to welcome diverse participants, including NCC, corporates, and marginalized groups. He highlighted the program's dynamic and challenging structure, organized into levels one, two, and three, providing participants with a continuous and evolving journey. Utsav underscored the program's role in non-formal education, offering valuable learning experiences beyond the conventional classroom setting. Moreover, he discussed the transformative impact on community and family mindsets. Utsav introduced the idea of creating a skill-based training program for college students and professors, aiming to explore innovative ways to use collected plastics for practical applications. This forward-thinking approach sought to contribute to environmental sustainability while fostering skill

development and mindset change.

Prof. Raman, shared his experience with formal environmental education, particularly at the University of Delhi, where a course on environmental education was introduced in 2014, following Supreme Court orders. He noted the theoretical and optional practical components initially, evolving under the National Education Policy to emphasize environmental science theory to practice. However, Prof. Raman highlighted challenges in engaging students beyond theoretical knowledge, as not all became proactive in addressing environmental issues. He acknowledged the passion of some students who took up the challenge and contributed to positive change. Prof. Raman emphasized the significance of non-formal education, where students could think more deeply about environmental problems and actively seek solutions. He noted the challenges faced when promoting alternatives to single-use plastics, including cost considerations but underscored the importance of such efforts in creating awareness and driving change. Prof. Raman expressed optimism that initiatives like the Tide Turners Challenge provided hope for students to actively engage in environmental issues and contribute to meaningful change.

Ms. Sneha Shahi, shared her transformative experience with the Tide Turners program, highlighting its role as a catalyst in her life. She expressed gratitude for the platform, emphasizing its ability to connect her with esteemed individuals, facilitate learning, and empower her to share knowledge with younger generations. Ms. Shahi recounted her journey, starting with a workshop at the CEE in the birth office, where engagement and enthusiasm led to the rapid growth of participants in her university. The program extended beyond theoretical discussions, encouraging hands-on involvement in waste management. Ms. Shahi's initiative involved surveying stakeholders in Vadodara district, revealing a shared concern about plastic pollution. She then detailed her exploration of the economic aspects and life cycle assessment of plastics, ultimately leading to a stream-cleaning project that garnered recognition from Tide Turners. Ms. Shahi underscored the importance of structured platforms like Tide Turners that allowed individuals to integrate their ideas, showcasing on-ground action and fostering collaboration between formal and informal education to mobilize youth and communities across India and the world.



PART III

- Ms. Anita Shankar, Chief of ASTU Eco Pvt Ltd,
- Ms. Sonal Shukla, Chief of Eco Conscious,
- Mr. Pranav Desai, Chief of Reco Solutions,
- Mr. Rumit Walia, Manager of Youth Initiative at EDN,
- Ms. Neha Shivaji Naikwade, Chief of Climate Collective, Dr. Sumit Sharma, Programme Officer at UNEP India
- Mr. Kaushik Chandreshekaran, UNEP Expert

During the discussion, Mr. Kaushik Chandreshekaran from UNEP introduced the concept of green entrepreneurship and job opportunities.

Dr. Sumit Sharma emphasized the potential job opportunities and career paths within the environmental sector, addressing the youth audience. He discussed the economic stability, social security, pride, and satisfaction that individuals could find in this field. Dr. Sharma identified three economic sectors—primary (agriculture), secondary (manufacturing), and tertiary—and highlighted the scope for green jobs that contributed to making these sectors more environmentally friendly. He emphasized the demand for water conservation in agriculture, organic farming, and reducing carbon footprints in manufacturing. Within the tertiary sector, he mentioned opportunities in digital systems for pollution control and environmental services. Dr. Sharma provided a non-exhaustive list of areas where employment could be generated, including science, advocacy, policy analysis, community mobilization, environmental training, and financial mobilization. Drawing from his journey, he encouraged the youth to consider environmental careers, highlighting the immense satisfaction derived from contributing to national initiatives like the Clean Air Program.

Mr. Kaushik Chandreshekaran, shared his journey from graduating in electronics and instrumentation at

BITS Pilani to becoming a part of the waste management sector. Initially, his involvement in a biodiesel conversion project was more by chance, but he highlighted the diverse and tremendous opportunities within the waste management sector. Kaushik emphasized that after his master's and environmental management studies, his engagement in waste management and plastic waste management became an informed choice. He outlined various career paths in the sector, including policy advocacy, research, involvement in waste management facilities, and entrepreneurship. Kaushik's experience highlighted how an unexpected opportunity could lead to a realization of the vast and rewarding prospects within the environmental sector.

He invited Ms. Anita and posed the question of how she came up with the idea of selling recycled plastic products commercially, considering the increasing importance and awareness of alternatives to single-use plastics. Additionally, **he asked how young people in the forum could follow such environmentally impactful ideas while also considering their commercial viability.**



Ms. Anita started, sharing her goal of eliminating single-use plastics. She emphasized the importance of setting realistic achievable goals while aspiring for larger dreams. She underscored the complexity of plastic waste management and advocated for design thinking as a crucial element, highlighting the significance of designing products that are easily recyclable and circular. Ms. Anita encouraged the youth to understand the entire supply chain, address challenges such as labelling and measurement, and leverage technology for real-time impact metrics. She stressed the need for mono-material solutions, effective segregation, and creating products that meet existing needs in the market. Through her insights, she encouraged young entrepreneurs to consider the entire lifecycle of plastic products and embrace innovative solutions for a circular economy.

To take the session further, Mr. Kaushik Chandreshekaran, discussed their experiences, and posed the question to

the panelists “How did they implement solutions to tackle plastic pollution through green entrepreneurship and job creation”?

Mr. Runit, in his discussion on combating plastic pollution through green entrepreneurship, brought attention to the pervasive presence of plastic in our daily lives. He introduced the concept of “plastic anxiety” and emphasized the need for initiatives like the Young Earth Awards to inspire and support college students and recent graduates with innovative ideas. Mr. Runit highlighted the transformative impact businesses could have on society and the environment, citing examples of companies that had introduced eco-friendly practices. He encouraged the youth to participate in such challenges, fostering sustainable solutions and contributing to a green economy. The Young Earth Awards, with its focus on diverse themes, aimed to drive positive change by promoting innovation and sustainability among the younger generation.

Ms. Neha, drawing from her extensive experience working with entrepreneurs, shared valuable insights on fundraising for solutions to combat plastic pollution and promote green entrepreneurship. She emphasized the need for a problem-solving mindset, urging entrepreneurs to address the core issues rather than superficial problems. Ms. Neha highlighted the growing funding opportunities in climate innovation, noting the significant increase in funding for climatic start-ups in recent years. She encouraged youth to experiment with their ideas during college, leveraging support from incubators and grant funding. Emphasizing the importance of a business model that benefits both socially and monetarily, Ms. Neha provided examples of successful start-ups using innovative solutions. She underscored the availability of grants and support for youth-led initiatives and advised entrepreneurs to tap into accelerators, debt funding, and networking opportunities to scale their ventures. Ms. Neha also shared the ecosystem support provided by the Climate Collective Foundation, offering various programs, accelerators, and funding initiatives to aid climate tech start-ups at different stages.

Ms. Sonal shared insights into the challenges of plastic waste segregation in the overall waste management supply chain. She underscored the critical role of awareness and education in addressing this challenge, emphasizing the need to educate not only on the distinction between dry and wet waste but also within dry waste, the various types of plastics. Ms. Sonal highlighted the importance of creating awareness and conducting educational campaigns to inform both youth and households about proper plastic waste segregation practices. She discussed their efforts in collaborating with NGOs, clubs, and other organizations to spread awareness and engage stakeholders. Ms. Sonal also detailed their system, allowing individuals to request

the pickup of socially segregated plastic waste. The start-up's approach involved processing collected plastic waste in its manufacturing unit to create different products. Despite resource limitations, Ms. Sonal expressed gratitude for the cooperation received from end consumers and stakeholders in the supply chain. She concluded by sharing how the start-ups involved the youth, including through partnerships with clubs, internships, and social media engagement, recognizing the strong environmental awareness and commitment present among the youth.

Mr. Pranav highlighted a case study of tackling plastic pollution through green entrepreneurship, emphasizing the importance of identifying pain points and addressing them with innovative solutions. He recounted his experience with an opportunity under the Swachh Bharat Mission, where they focused on creating awareness about waste management in a village. The pain point, illustrated by the dumping of 800 kg of plastic in a step well, led to the development of a solution—a compact machine for waste recycling. Mr. Pranav underscored the need to persevere, even in the face of challenges or skepticism, and emphasized the transformative potential of identifying and addressing significant pain points. He shared instances of the technology being implemented globally, such as in Nepal and the UK, illustrating the global nature of the plastic pollution problem and the importance of acting locally while thinking globally.

The floor was open to questions from the audience.



Question 1: How can we shift the perception of environmental education from being mandatory to actively engaging students, ensuring they view it as a crucial and interesting subject, fostering a genuine interest in addressing environmental issues and promoting green jobs?

Answered by Mr. Sam: To shift the perception of environmental education, we needed a mindset change, treating every job as a potential green job. It was about challenging the status quo, viewing waste prevention as

integral and considering it throughout the value chain. Collaborating with the Indian government on skills development was crucial, ensuring a competent workforce for a global green transition. Education systems had to unlearn and relearn, being open to change. Empowering young people to question and innovate was key, and prioritizing gender equity ensured a diverse and impactful environmental transition.

Question 2: How can universities ensure a diverse range of courses like environmental auditing, acknowledging the need for job-oriented and entrepreneurial training in this domain, catering to various job prospects while simplifying the concept of green jobs for students?

Answer by Ms. Gayatri: Universities could diversify environmental courses by breaking the misconception that green jobs were limited to science or engineering. Acknowledging the role of humanities in environmental jobs was crucial. By offering interdisciplinary courses, universities could cater to various talents, making green jobs accessible to students from different backgrounds. Simplifying the concept and emphasizing its multidisciplinary nature would encourage a broader range of students to pursue these courses, fostering a holistic approach to environmental education and career opportunities.

A follow-up answer by Ms. Sneha: To diversify environmental courses, universities should integrate job-oriented and entrepreneurial training, such as environmental auditing. Recognizing the growing demand for green jobs beyond science or engineering was crucial. Emphasizing the increasing job market in climate-related roles, like environmental science technicians, urban planners, and emergency planners, could attract students. Simplifying the concept of green jobs and showcasing the booming industry would not only generate interest but also highlight the financial benefits, making it a compelling career choice.

Question 3: What challenges or system shortcomings hinder the success of waste segregation initiatives in Delhi, leading to the mixing of segregated waste in the final stages despite the existence of dry waste schemes on paper? The second question addressed the needs and welfare of kabadiwalas, who play a significant role in waste management. Its highlighted efforts dedicated to improving the well-being of kabadiwalas amidst the focus on waste management by various organizations and agencies.

Answer by Dr. Sumit: The segregation of waste, while essential, was just one step in the larger waste management process. The challenge lay in the various steps until the final disposal, where mixed waste remained an issue. To

address the well-being of kabadiwalas, Extended Producer Responsibility (EPR) offered an opportunity to formalize the informal waste collection system. By mandating industries to pay for waste collection, it provided a chance to integrate these essential contributors into a structured system, a positive step for their welfare and the overall waste management process.

Outcomes

- Addressing Waste Management Challenges:** Efforts to improve execution and address system shortcomings in waste management, including exploring initiatives like Extended Producer Responsibility (EPR) for the well-being of waste management contributors.
- Comprehensive Discussion:** Acknowledgment of a comprehensive session on environmental education, youth engagement, plastic pollution solutions, and green entrepreneurship, aiming to build on successes for a sustainable and inclusive future.

Recommendations

- Strengthen Collaboration:** Foster stronger ties with UNF, WWF, state governments, NCC, and global stakeholders to enhance program adaptability and effectiveness.
- Enhanced Education and Advocacy:** Develop programs, workshops, and campaigns to continually engage and inspire youth worldwide, emphasizing the importance of education and advocacy in addressing plastic pollution.
- Inclusive Participation:** Promote diversity among participants, including students, NCC members, researchers, rural individuals, and professionals, to foster excitement and inclusivity within environmental initiatives.
- Continuous Program Evolution:** Incorporate feedback and reinvent the Tide Turners program to keep it dynamic and challenging, exploring new ways to engage and empower youth in combating plastic pollution.
- Encourage Green Entrepreneurship:** Promote awareness, provide training, and create a conducive environment for sustainable practices, encouraging youth to explore entrepreneurial opportunities in combating environmental challenges.

Thematic Session

15

ICSE **MOBIUS FOUNDATION** **SWECHHA** **R**

INTERGENERATIONAL DIALOGUE ON RE-IMAGINING EDUCATION FOR A CLIMATE RESILIENT FUTURE

Background

Climate change emerged as a significant challenge, with extreme weather events becoming more frequent. The need for an effective response from diverse stakeholders, including the older and younger generations, was evident. The intergenerational dialogue aimed to leverage the strengths of both groups for meaningful climate action. The education sector played a crucial role in fostering environmental stewards but faced challenges in integrating climate resilience into programs.

The session at ICSE 2023 focused on re-imagining the education system for climate resilience. It brought together diverse stakeholders to discuss the strengths, gaps, opportunities, and risks in the present education system. The panel aimed to explore ways to move forward in the face of ecological degradation, greenhouse emissions, and extreme climate events. The intergenerational/multistakeholder approach was emphasized to enhance the effectiveness of rethinking the education sector for climate resilience, involving students and youth leaders in decision-making for the future.

Objectives

- To facilitate an inclusive, empathetic and efficacious dialogue between stakeholders of different age groups on the role of the education sector in shaping a sustainable and climate-resilient future.
- To constructively deliberate on the abilities of the current education system to address climate change issues effectively and the future avenues available to advance the contribution of the sector to building climate resilience.

- To identify and examine strategies and best practices across local, national and global platforms across stakeholder domains that can help enhance the role of academic institutions to nurture climate leaders and enable knowledge solutions and action for a more sustainable world.
- To provide opportunity for young people, students and youth to share their perspectives and ideas thereby recognizing their agency in contributing to climate adaptation and mitigation.

Moderator

Dr. Shilpanjali Deshpande Sarma, Program Manager, Swechha: We For Change Foundation.

Speakers

- Ms. Khanak Gupta Senior Secondary student, The Shriram Millennium School, Faridabad
- Ms. Saloni Kumari Senior Secondary student, Government Co-Ed Senior Secondary School, Munirka.
- Mr. Samarrth Khanna, Masters' student, Teri School of Advanced Studies,
- Mr. Vimlendhu Jha, Executive Director, Swechha: We For Change Foundation.
- Mr. Richard McDonald Presenter and Executive Director, R Futures Group, Switzerland
- Ms. Susan Thomas (via Zoom) Educator and Consultant, Climate Reality Project, New Delhi

Summary of the Presentations and Discussions

Dr. Shilpanjali Sarma welcomed the panelists to the session and stressed the urgent need for education to inspire

sustainable choices and community action in response to the growing impacts of climate change. Krishanu, Gender and Community Program, from Swechha, introduced an audience engagement activity called “Throw the Words.” During this activity, participants shared words that were directly related to the overarching theme of the session. At the end of the session, Krishanu asked for more words from the audience and found that their vocabulary had improved and they were more focused on achieving a sustainable environment.

Dr. Shilpanjali initiated the session and posed the following question to the panelists: **How can we enhance environmental education to resonate more deeply with young individuals who may not initially share a strong inclination toward the environment?** Additionally, can you share a specific instance or learning content that made a significant impression on you as a nature enthusiast during your journey, and how might similar experiences be tailored to engage others in your age group who are not as naturally inclined towards environmental awareness?



Ms. Khanak Gupta, shared her Eco club’s impactful initiative at a school event, showcasing DIY planters, eco-bricks furniture, and bio-enzymes. The stall engaged students and adults, promoting sustainability through hands-on activities, a signature campaign, and social media promotion. Despite its apparent simplicity, the initiative resonated widely, effectively reaching and influencing a diverse audience.

Ms. Saloni Kumar, elaborated on Eco Clubs, defining them as student groups working on environmental conservation in schools or universities. She highlighted initiatives in Delhi’s government schools, earning them a green award. Activities include creating a kitchen garden, conducting experiments, and motivating students to engage in environmental projects. Saloni also mentioned about Eco Club design, an eco-friendly toilet van to address

rural open defecation and sewage issues, offering practical solutions for local communities.

Mr. Richard McDonald emphasized that actions are more important than words and that small actions can prompt reflection more effectively than mere wisdom. Mr. McDonald appreciated conversations with young individuals engaging in innovative endeavors. He advocated for fewer adult-to-adult talks and less reliance on phones for wisdom. He promoted a mutually enriching learning process where actions convey more than words.

Mr. Samarrth Khanna, shared a profound learning experience when leading 280 students to Ranthambore National Park. The trip aimed to connect students with nature, focusing on tiger conservation. Unexpectedly, students interacted with girls from a poaching-dependent village. The girls expressed gratitude for a computer centre run by tourists due to tiger conservation efforts. Despite their remote, ecologically rich yet facility-deprived environment, the girls found satisfaction. This highlighted the transformative power of environmental education, emphasizing that it’s not just an experience but a life skill that brings internal and external change.

Mr. Vimlendhu Jha expressed his perspective on the last 20 years of his environmental education journey. He highlighted the ongoing need for significant work and voiced a sense of anticipation for impactful moments yet to come. Emphasizing the importance of moving beyond conventional education, he called for a shift towards a focus on practice. In his vision, a practice should be integral to education, making it a vital component of environmentalism. Mr. Vimlendhu stressed on the urgency of moving from traditional educational structures to a more practical, action-oriented approach for the betterment of the planet.

Ms. Susan Thomas reflected on her meaningful work in school, focusing on the framing of a green policy. She emphasized the collaborative effort with NGOs like Swechha and the Climate Reality Project, incorporating a Green Campus program that involved system audits and teacher training. Ms. Thomas stressed the importance of enhancing teachers’ attitudes and skills, considering them crucial for effective change. The school achieved a Gold Star Green Campus award, implementing features like solar panels, greywater recycling, and waste segregation. She recognized the transformative impact of experiential learning, especially among younger students, and highlighted the need to celebrate local heroes driving small but impactful innovations.

To take the session further, Ms. Shilpanjali posed a question to Ms. Khanak and Ms. Saloni, who are the youngest panelists in the session. **What specific content**

or learning methods in environmental education have made a strong impression on you? Have you observed any content or learning approaches that have engaged peers less interested in environmental topics? Additionally, what further actions do you believe the broader community could take to promote environmental awareness?

Ms. Khanak Gupta, acknowledging the importance of Environmental Education, expressed dissatisfaction with the existing textual materials. She recounts gaining insights from Environmental Studies (EVS) but highlights the limitations of relying solely on textual content. Their interactions with environmentalists provided eye-opening experiences, unveiling the genuine challenges, crises, and risks. These encounters spurred the individual to actively seek solutions. The individual advocates for augmenting educational approaches with more hands-on learning and field excursions to enable children to grasp and engage with their community's realities, thereby nurturing essential problem-solving skills crucial in the current context.



Ms. Saloni Kumari has suggested that if we seek assistance from academic and environmental science, which are fundamentally derived from science and geography, it would be helpful to create a separate textbook for environmental science. The textbook should include more practical activities along with theory to make it more engaging for students. For students who are interested in both subjects, we could organize activities that focus on the environment, such as poster-making competitions, instead of just general topics. Teachers need to focus on environmental topics while arranging these activities. By doing so, we could achieve our goals with the help of academics.

Ms. Susan Thomas, responded to the young panelists' thoughts, expressing appreciation for Saloni's desire for a standalone environmental education subject. However, Susan advocated for integration into all subjects, incorporating experiences and stories about

environmentalists across languages. She emphasized the role of teachers in designing interdisciplinary, project-based activities aligned with the NCF 2023 guidelines. Susan urged schools to collaborate and maintain student portfolios showcasing environmental skills developed over time. She stressed the need for a holistic ethos where sustainability education becomes embedded, fostering skills and an emotional connection to nature from foundational years. Susan emphasized the shift from a mark-oriented approach to skill-based learning, fostering students' ability to stand up for climate justice and find solutions.



Ms. Shilpanjali asked Mr. McDonald how students can shift from a marks-oriented approach to skill-based learning embedded in environmental education, which feels fragmented.

Mr. Richard McDonald stated that simply embedding environmental education into the curriculum may not be enough to make an impact. He believes that students must be able to understand the relevance and importance of what they are learning through first-hand experiences. He encouraged a focus on making the subject matter more relatable and impactful for students. Additionally, he turned the question to the young audience, asking them about the magic that would make their studies exciting and propel them into transformative action. He sought their perspectives on whether, given their experiences and living in the current context, they believe they could contribute to environmental initiatives better than some older individuals.

In response to Mr. McDonald's question about embedding sustainability education, an audience member emphasized the importance of practical engagement. They highlighted that education about sustainability and the environment should not only involve learning but also hands-on fieldwork. The audience member suggested including students in activities such as Eco clubs, where they actively participate in projects aimed at environmental

conservation.

Another audience member responded to the question about whether the youth could contribute better than older individuals and expressed a belief that, as the youth, they have more capabilities to act. The audience member shared a personal example of teaching their mother to save water, citing that younger individuals can influence and educate their families. The individual emphasized the practical aspect of implementing changes in daily lives, such as reducing plastic usage, indicating that the youth can contribute to sustainability more actively. The individual emphasized the practical aspect of implementing changes in daily lives, such as reducing plastic usage, indicating that the youth can contribute to sustainability more actively.

Dr. Shilpanjali posed a question to Mr Samarrth, as you pursue a master's degree, do you feel that the educational programs provide the necessary knowledge and skills for a career in the fields of environment, sustainable development, and climate? Moreover, for individuals who are not pursuing master's courses in these areas, how effective do you think the existing educational frameworks are in promoting environmental awareness? Is the current approach satisfactory, or are there areas that require improvement?"

Mr. Samarrth emphasized the need for a holistic approach to environmental education. He highlighted the importance of practical, hands-on experiences over mundane holiday homework assignments. Rather than confining environmental education to essays and thermocol models, he advocated for immersive experiences, such as his week-long project in Sikkim, working with the Forest Department and local tribals. He believes that integrating subjects, like combining accounting and finance with wildlife studies, provides a more comprehensive understanding. Mr. Samarrth encouraged a shift from a pessimistic narrative to a more hopeful and practical one. He stressed the significance of strategically using acquired knowledge and fostering a mindset that goes beyond rote learning, empowering individuals to drive positive change in the world.

Dr. Shilpanjali directed a question to Mr. Vimlendhu regarding the evolution of Environmental Education in India. She inquired about the pillars of a value-adding learning framework that could guide education for sustainable development. Additionally, she sought Mr. Vimlendhu's perspective on the current state of Environmental Education, particularly in light of the new United Nations Environmental Program (UNEP) and the National Curriculum Framework (NCF) of 2023.

Mr Vimlendhu Jha, reflected on the evolution of environmental education in India, emphasizing the need to move beyond mandated and theoretical approaches. Mr Jha applauded those who went beyond governmental mandates, becoming heroes in the field. He advocated for a shift from mandatory education to a demand-driven approach, where children actively seek and engage in environmental learning. Contextual and practical education is highlighted, with a focus on holistic, futuristic, and intergenerational perspectives. Mr. Jha underscored the historical importance of teaching in vernacular languages, connecting people to their immediate surroundings. Ultimately, he called for a redefined approach to environmental education that is rooted in real-world experiences, contextual understanding, and an intergenerational lens.

The audience shared their experiences and views on how to act toward environmental protection. The individual expressed enthusiasm for the young audience, emphasizing the need for self-driven learning. Encouraging students to take charge of their education, the speaker underscored the abundance of knowledge available and the importance of personal initiative. She stressed on the significance of belief and attitude in environmental activism, using personal experiences to illustrate the journey of creating an experimental laboratory from scratch. The individual advocated for innovative, hands-on approaches, citing examples of waste management and composting initiatives in schools. She also highlighted the practicality of involving local communities in waste management and urged the students to be self-reliant, and innovative, and to create their own impactful stories rather than relying on traditional teaching methods.

Dr. Shilpanjali opened the floor for the audience to share their experiences and ask questions.



Question from the audience: **How can individuals interested in initiating sustainable development work at the intersections where ecology intersects**

with public health or ecosystem services? Additionally, considering that lower-income students and teachers often prioritize basic needs over sustainability education due to unmet needs at home, what strategies can be implemented to effectively engage these communities in learning about sustainability?

Mr. Vimlendhu critiqued the short-term perspective in addressing environmental issues, pointing out the need to consider broader trends and deeper ecological aspects. He emphasized the tendency to prioritize immediate concerns over sustainable development, highlighting instances where urban development encroaches on floodplains, exacerbating the impact of natural events like floods. Vimlendhu stressed on the importance of aligning actions with environmental rhetoric, calling attention to the disparity between verbal commitments to sustainability and real-world practices, such as using plastic plates and operating air conditioning while discussing sustainability. He underscored the urgency of bridging the gap between words and actions to truly address environmental challenges.

Mr. Samarrth Khanna emphasized the nuanced relationship between vulnerable communities, environmental education, and resource deprivation. Acknowledging the apprehensions of teachers in rural areas, He highlighted that environmental concerns may not top the priority list for those facing severe economic challenges. Mr Khanna underscored that despite limited exposure, these communities possess a deep-rooted understanding of their environment. Contrary to assumptions, their connection to nature is profound, and their lived experiences surpass theoretical knowledge. He advocated for making Environmental Education more accessible to these communities, acknowledging them as potential educators and compelling storytellers whose real-life encounters with nature can contribute significantly to fostering change.

Question by audience: **How can we effectively bridge the gap between theoretical knowledge in environmental science and the lack of practical implementation, given that students often prioritize exams over real-life environmental actions?** Additionally, how can we strategically shift the educational focus from exam-oriented learning to practical engagement, fostering a genuine commitment to environmental practices among students?

Answered by Mr. Samarrth: He highlighted the intergenerational aspect in his perspective on environmental practices, drawing inspiration from his grandfather's frugal habits. He emphasized the importance of a family's influence, sharing how his grandfather's

attitude towards preserving and reusing items has shaped his values. The concept of not readily disposing of things and mindful consumption is a lesson passed down through generations, contributing to a personal commitment to sustainable practices. This underscored the potential impact of intergenerational dialogues within families in cultivating positive attitudes toward environmental stewardship.

Answered by Mr. Richard: He emphasized the crucial need to engage the emotional aspect of young individuals for effective environmental education. He questioned whether schools are doing enough to nurture the emotional well-being of students, fostering motivation, excitement, and optimism. Mr. Richard stressed on the importance of inspiring a sense of empowerment and belief that individual actions can really make a significant difference. While acknowledging the value of curriculum content and research, he said that true transformational behaviors arise when the heart and spirit are actively involved. He urged for a shift towards emotional engagement in education for sustainable development.



Question by Audience: **How can we accelerate sustainable and climate change education and seamlessly integrate it into our existing education system? In what ways can we make education for sustainable development and climate resilience more relevant to people's daily lives? How can we empower young individuals to implement their knowledge of sustainability and climate change, make sustainable choices in their personal lives, and take the lead in community-driven initiatives?**

Mr. Vimlendhu emphasized a fundamental issue in our education system and society's perspective on the environment. He criticized the prevalent short-term focus and the lack of consideration for the larger picture, particularly in understanding ecology. Using examples like the recent floods and the contradictory actions taken in the name of sustainable development, he highlighted

the disconnect between what is said and what is done. Mr. Vimlendhu challenged the notion of balance in sustainable development, pointing out the urgency of addressing immediate environmental concerns over prioritizing unchecked development. He stressed the need to rethink the current approach, especially in the face of climate-related challenges, advocating for genuine actions aligned with environmental consciousness.

Mr. Samarrth threw light on the challenges of imparting environmental education, particularly in vulnerable communities. He emphasized that these communities, often deprived of resources and quality education, have a different set of priorities, with environmental concerns not necessarily topping their lists. He highlighted the intrinsic connection these communities have with the environment for their survival. Despite limited exposure, he noted that their understanding of environmental issues surpasses that of many, rooted in their everyday life experiences. Mr. Samarrth advocated for acknowledging a profound connection with nature and suggested that these communities, with their first-hand experiences, could be educators and storytellers in the endeavor for environmental education. He stressed the importance of making such education accessible and relevant to their experiences, considering them key contributors to the narrative of change.

Question: How can students pursue their academic ambitions while also taking part in environmental initiatives and your opinion on whether these two should be intertwined?

An audience member underscored the importance of experiential learning in environmental education, emphasizing that skills and activities related to sustainability should be integrated into the curriculum from the early stages of education. The focus should be on practical engagement, including community interactions, collaborative projects, and skill development. Waste segregation, water conservation, energy conservation, biodiversity, and community engagement are cited as essential components. The speaker suggests adopting a credit system for such projects and credits the National Curriculum Framework (NCF) 2023 for providing leverage for these initiatives in schools. The goal is to instill a love for preserving and conserving the planet in students, ensuring they carry this commitment throughout their lives. The role of teachers is highlighted, stressing the need for training and fostering an attitude of love for the environment.

Ms. Susan Thomas emphasized the importance of experiential learning, advocating for skill development and practical projects from early education. She highlighted waste segregation as a crucial practice to instill in schools,

and its lifelong impact on students. Susan promoted a credit system for environmental projects and mentioned the potential of NCF 2023 to support such initiatives. She shared a real-life example of a Class 12 student initiating a medical strip recycling project in her colony, emphasizing the positive impact of student-led environmental endeavors. Susan also stressed on the responsibility of schools and teachers to integrate climate change education, calling for teacher training and fostering a love for the environment in students.

Outcome

- The session successfully addressed the urgent need for environmental education to inspire sustainable choices.
- Various panelists shared impactful initiatives and experiences, emphasizing the transformative power of environmental education.
- The discussion touched upon key aspects, including the role of Eco Clubs, the importance of practical engagement, intergenerational dialogues, and the evolving landscape of environmental education in India.

Recommendations

- Integrate environmental education into all subjects through an interdisciplinary approach aligned with NCF 2023 guidelines.
- Emphasize practical engagement through hands-on learning, field excursions, and community projects to foster relevance in daily life.
- Provide comprehensive teacher training programs to enhance educators' abilities in promoting environmental awareness.
- Foster a holistic ethos in schools by embedding sustainability education in the curriculum from foundational years.
- Implement a credit system for environmental projects to recognize student contributions.
- Transition from theoretical to action-oriented learning, involving local communities as educators and storytellers.
- Shift away from exam-oriented education towards fostering genuine commitment to environmental practices.
- Empower youth to lead community-driven initiatives in environmental education.
- Ensure accessibility of environmental education in vulnerable communities.



Thematic Session

16



ROLE OF SUSTAINABILITY EDUCATION IN AMPLIFYING NATURE BASED SOLUTIONS FOR CLIMATE ACTION

Background

Nature can provide solutions to many of the challenges society faces today, including climate change, food and water security, human health, disaster risk reduction, ecosystem degradation and biodiversity loss, and resilient and sustainable rural livelihoods. To accommodate the broad range, IUCN has defined Nature-based Solutions as “actions to protect, sustainably manage and restore natural or modified ecosystems, that address societal challenges (e.g. climate change, food and water security or natural disasters) effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.” Nature-based Solutions (NbS) have the capacity to offer pathways for transformative changes to address the current crises and also to rethink the conservation-economy dilemma. Additionally, they create job opportunities and protect communities in vulnerable situations from disasters like flooding, landslides, and droughts. Research shows that these could deliver up to a third of the emissions reductions between now and 2030 needed to limit global warming to 2°C. It is estimated that \$44 trillion of economic value generation is moderately or highly dependent on nature and its services, which corresponds to over half of traditional global GDP (WEF, 2020). Approximately 1.2 billion jobs in sectors such as farming, fisheries, forestry and tourism rely on healthy and functioning ecosystems (WWF-ILO, 2020).

In this context, nature-based solutions (NbS) have gained significant attention as a holistic approach towards addressing these climate-related challenges. However, there is a critical gap in robust awareness, skill and knowledge among the young generation that needs to be bridged to fully capitalize on these opportunities. Sustainability education holds the key to filling this gap.

It can empower the youth with the knowledge, values, and skills needed to drive NbS and take up green jobs. However, to scale up and mainstream NbS initiatives, robust awareness and understanding is required. This session seeks to explore this connection more deeply.

Objective

The objective of this session is to explore and examine the role of sustainability education in amplifying the impact of nature-based solutions for climate action, and open up pathways to green jobs for the younger generation. It will provide a platform for academics, industry experts and environmental professionals to share insights, experiences, and innovative approaches to integrating sustainability education and NbS.

Moderator

Ms. Sheetal Antil, Sourcing Specialist, NbS, South Asia, South Pole

Speakers

- Mr. Arvind Anil Boaz, Climate Consultant, IFS (Retd.) Former Head of Forest Force Chhattisgarh, Former D. G. SACEP/UNSASP
- Dr. Erach Bharucha, Director, Bharati Vidyapeeth Institute of Environment Education and Research (BVIEER), Pune
- Ms. Archana Chatterjee, Program Manager, IUCN-India
- Mr. Abhijeet Sharan, Programme Manager, South Pole
- Dr. Atoho Jakhalu, Director, Climate Studies and Knowledge Solution Centre, Nagaland

Summary of the Presentations and Discussions

Ms. Sheetal Antil initiated the session by expressing gratitude for the participants. She highlighted the importance of nature-based solutions (NBS) in addressing climate, biodiversity, and development challenges. Antil emphasized that NBS can offer transformative pathways and bridge the conservation-economy dilemma. She stressed the need for sustainability education to empower the youth with knowledge, values, and skills for NBS, promoting green jobs. The session aimed to explore the role of sustainability education in enhancing the impact of NBS for climate action and creating pathways to green jobs for the younger generation.

Insights into Nature-Based Solutions (NbS)

Mrs. Archana Chatterjee from IUCN provided insights into NbS, highlighting its relevance in addressing societal challenges. She emphasized its potential in climate change mitigation, economic development, and social resilience. The importance of distinguishing terms like “nature-based solutions,” “nature-derived solutions,” and “nature-inspired solutions” was clarified, emphasizing active ecosystem involvement.

IUCN Global Nature-Based Solution Standard

Mrs. Chatterjee introduced the IUCN Global Nature-Based Solution Standard, a framework designed through consultations with experts and indigenous communities. The standard incorporates criteria such as scalability, biodiversity net gain, economic feasibility, and inclusive governance, aiming to assess and measure the effectiveness of NBS.

Applications and Case Studies

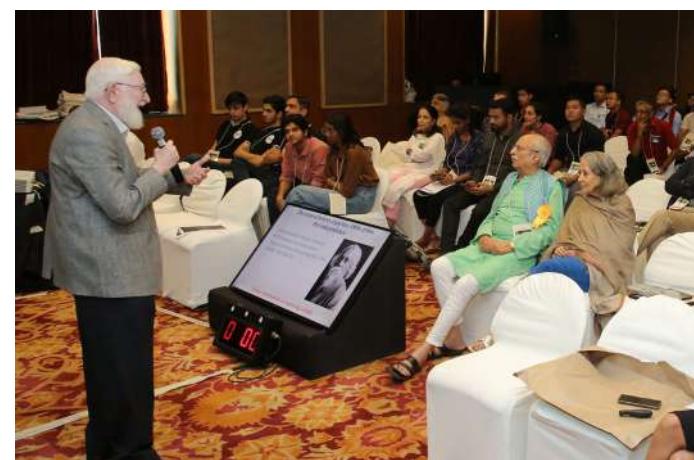
Various NbS applications were discussed, including river basin management, forest landscape restoration, coastal ecosystem protection, and urban green spaces. Case studies, such as India's commitment to the Bond Challenge and the Meghna Youth Water Futures program, illustrated the practical application of NBS.

Strategies for Sustainable Development and Climate Science Education

Dr. Arvind Anil Boaz emphasized making NbS accessible at the grassroots level. Bridging the gap between scientific jargon and local understanding, he advocated for a fusion of traditional knowledge with modern concepts. Dr. Boaz proposed strategies such as local initiatives, knowledge sharing, and aligning traditional skills with modern goals.

Evolution of Nature-Based Education

Dr. Erach Bharucha traced the historical evolution of nature-based education in India. He stressed the shift towards an ecological approach, experiential learning, and action-based initiatives. He highlighted upon the challenges and proposed a holistic, interconnected, and experiential approach for a deeper connection with the environment.



Private Sector's Role in NbS

Mr. Abhijit Sharan of South Pole discussed the private sector's role in NBS projects, emphasizing green jobs' growing importance. He explained the concept of carbon credits and the sector's diverse job opportunities. Sharan highlighted challenges but also emphasized personal and professional growth in the sector.



Nature-Based Solutions and Sustainable Education in Nagaland

Dr. Atoho Jakhalu presented initiatives like Mobius Young Climate Leaders for Himalayan Development in Nagaland in collaboration with Mobius Foundation,

focusing on school education and nature-based solutions. The Panipahar curriculum being imparted through this initiative aimed to instill climate change awareness, while another project JICA forestry project focused on agroforestry interventions and beekeeping to contribute to forest regeneration.

Outcomes

- **Clear NbS Understanding:** The session provided clear insights into Nature-Based Solutions (NbS), emphasizing their relevance in addressing societal challenges such as climate change, economic development, and social resilience.
- **Structured Assessment:** Introduced the IUCN Global Nature-Based Solution Standard, offering a comprehensive framework with criteria like scalability, biodiversity net gain, economic feasibility, and inclusive governance for assessing NbS effectiveness.
- **Practical Applications:** Showcased diverse applications of NbS through case studies, including river basin management, forest landscape restoration, and urban green spaces, illustrating successful implementations and outcomes.
- **Holistic Approach to Education:** Advocated for

a holistic, interconnected, and experiential approach in sustainability education, emphasizing the fusion of traditional knowledge with modern concepts for a deeper environmental connection.

Recommendations

- **Integrate NbS into Formal Education:** Embed NbS principles in formal education curricula to provide students with foundational knowledge in climate science, ecological restoration, and sustainable development from an early stage.
- **Establish Collaborative Platforms:** Create collaborative platforms bringing together academia, industry experts, and environmental professionals to facilitate knowledge exchange, research partnerships, and the development of innovative approaches for scaling up NbS initiatives.
- **Promote Experiential Learning and Skill Development:** Emphasize experiential learning and skill development programs focused on NbS to equip the youth with practical skills essential for implementing NbS in real-world scenarios, aligning with the goal of empowering them to pursue green jobs and actively contribute to climate action.



5th International Conference on Sustainability Education

Theme: Educating for Climate Action and Sustainability

September 19 & 20, 2022 | India Habitat Centre, New Delhi, India

Thematic Session

17



GREEN ENTREPRENEURSHIP AND ITS POTENTIAL IN THE NEW WORLD

Background

In the midst of the climate crisis, lies a great opportunity—Green Entrepreneurship. Protecting nature also means opening up enormous opportunities for livelihoods. Businesses can thrive by adopting green practices and innovations in nature can change the existing scenario. Children and youth can become the bedrock for such ideas and innovations. Inculcating green values and skills among them can lead to a sustainable future. With India's focus on being a green economy and commitment to becoming a net-zero emissions nation by 2070, green jobs will be the focus of economic growth for the next few decades. A mass movement to ignite the spirit of green entrepreneurship is on the horizon and it's time to take bold steps toward transforming India into a green economy.

Objectives

- Integrate Environmental Education into School Curriculum:** Collaborate with educational institutions to embed comprehensive environmental education in the curriculum, emphasizing sustainability, climate change, and green entrepreneurship. Promote hands-on learning through initiatives like school gardens and eco-friendly projects to instill a practical understanding of environmental issues and foster a mindset conducive to sustainable business practices
- Support Youth Entrepreneurship Programs:** Establish and fund programs dedicated to youth entrepreneurship in green sectors, offering mentorship, training, and resources for young individuals aspiring to create environmentally

conscious businesses. Encourage collaborative partnerships between educational institutions, industry experts, and environmental organizations to cultivate a supportive ecosystem that nurtures and propels budding green entrepreneurs.

- Offer Incentives for Sustainable Business Practices:** Develop and implement policies offering financial incentives, like tax breaks and grants, to encourage businesses led by young entrepreneurs to adopt sustainable practices. Establish recognition programs or awards for green entrepreneurs, promoting successful initiatives and cultivating a positive image of sustainability in the business landscape.

Moderator

Mr. Amit Banka, Founder & CEO, We Naturalist, Mumbai

Speakers

- Prerna Prasad, Founder and CEO, Ecoplore
- Ajay Kumar, Co-Founder, Teach for Green, Jharkhand

Summary of the Presentations and Discussions

Mr. Amit Banka - Early Education and Digital Solution

Key Points:

- Stressed the importance of early education in climate action and entrepreneurship.
- Shared examples of decreased cracker sales in Mumbai due to environmental education.
- Highlighted rural initiatives where children actively

contributed to water conservation.

- Presented We Naturalist, a digital solution addressing development and climate action challenges.
- Digital solutions, such as We Naturalist, contribute to transparent and accountable project management.

Ms. Prerna - Journey to Ecoplor

Key Points:

- Former journalist Ms. Prerna shared her journey to entrepreneurship.
- Introduced Ecoplor, an eco-friendly hotel platform with sustainability features.
- Emphasized rainwater harvesting, solar panels, and composting in Ecoplor hotels.
- Shared challenges and successes in funding, prioritizing impact and core values over external funding.
- Highlighted EcoPlor's journey as a bootstrapped company, focusing on sustainable tourism

Mr. Ajay Kumar - Sustainable Entrepreneurship and Grassroots Initiatives

Key Points:

- Ajay, an entrepreneurship educator, focused on making people more sustainable through innovative teaching methods.
- Advocated for grassroots entrepreneurship and its role in driving climate action at the community level.
- Introduced Teach for Green, an organization combining education and entrepreneurship.

Outcomes

- Increased environmental consciousness among individuals due to early education
- Improved efficiency and effectiveness in climate projects through digital solutions
- Demonstration that eco-friendly tourism can thrive as a bootstrapped venture
- Insights related to Grassroots entrepreneurship leading to local climate action.

Recommendations

• Integrate Early Education Programs

Action: Implement early education programs on climate action and entrepreneurship in schools and communities.

Rationale: The success stories shared, including decreased cracker sales and rural water conservation initiatives, underscore the need to prioritize early

education for long-term environmental impact.

• Promote Digital Solutions for Transparency

Action: Encourage the adoption of digital solutions, such as We Naturalist, for efficient and transparent project management in climate action initiatives.

Rationale: Digital platforms contribute to accountability, enabling stakeholders to monitor and participate in sustainable development projects, fostering trust and transparency.

• Support and Encourage Sustainable Business Ventures

Action: Provide support and incentives for entrepreneurs and businesses adopting sustainable models, as exemplified by EcoPlor's eco-friendly hotel platform.

Rationale: Sustainable businesses can thrive even as bootstrapped ventures, showcasing the viability of environmentally conscious initiatives. Encouraging such endeavors will contribute to the growth of the green economy.

• Foster Grassroots Entrepreneurship Initiatives

Action: Support and promote grassroots entrepreneurship initiatives, such as Teach for Green, that combine education and entrepreneurship for community-driven climate action.

Rationale: Grassroots initiatives have a direct and meaningful impact on local communities. Empowering individuals through education and entrepreneurship can lead to sustainable solutions tailored to specific needs.

• Create Collaborative Platforms

Action: Establish collaborative platforms that bring together various stakeholders, including educators, entrepreneurs, and community leaders, to share knowledge and resources.

Rationale: Collaboration and institutionalization were highlighted as essential for addressing environmental challenges. A collaborative approach enhances the collective impact of diverse initiatives and fosters a holistic response to climate action.





**DAY
2**



CONCLUDING PLENARY

Ms. Anupama Madhok, Director, Water Digest presented consolidated session highlights from the two-day conference. Additionally, speakers shared their concluding remarks.

Speakers

- Dr. Nakul Parashar, Former Director, Vigyan Prasar
- Mr. Alan Egbert, ACER, Dubai
- Dr. Neelima Jerath, Director General, PGSC
- Ms. Karuna Singh, Regional Director, Earth Day Network
- Ms. Vinitaa Apte, Founder Director, TERRE Policy Centre

Summary of the Discussions and Presentations

Dr. Nakul Parashar proposed the formation of an action group comprising all the partners who have contributed to the 5th ICSE 2023. He emphasized the pivotal role such groups could play in disseminating awareness to areas where it is most needed and stressed upon everyone's collective responsibility to actively engage and ensure that the impact of this conference transcends beyond being just another event.

Mr. Alan Egbert commended ICSE for serving as an inclusive platform catering to a broad spectrum of individuals, ranging from students to budding entrepreneurs. He also highlighted the conference's diversity, emphasizing its role in effectively conveying the message of sustainability as an integral aspect of our daily lives. Mr. Egbert stressed the importance of embodying sustainability as a shared commitment that transcends various sectors and demographics.

Dr. Neelima Jerath underscored the significance of three essential types of actions during her address. Firstly, the necessity for global action. Secondly, the importance of local action. Lastly, the significance of people's action and the need for extensive partnerships to ensure the success of sustainability education. Speaking about the PGSC session, she highlighted two innovative sustainability projects that garnered attention from entrepreneurs to support marks a significant step forward. Dr. Jerath emphasized the importance of tailored information for different age groups, aiming to enhance the understanding of sustainability among future generations and encourage positive actions. Furthermore, she proposed the establishment of an SDG indicator platform for schools, offices, and various organizations. By creating a public platform, she believes people will be motivated to take more proactive measures, fostering a collective effort towards sustainability.

Ms. Karuna Singh in her closing statement emphasised that the countdown on the climate clock is ticking, with just over five years remaining before we potentially surpass the critical 1.5-degree Celsius threshold. This impending milestone is expected to have widespread repercussions for everyone. Emphasizing the urgency, she highlighted the imperative for climate education and the crucial role of cultivating individuals as climate stewards. "I strongly recommend that we have workshops for teachers that go beyond the written word," she said.

Dr. Vinitaa Apte in her concluding remarks expressed her commendation for the five successful iterations of ICSE and stressed the importance of extending its reach to communities. She highlighted the potential for ICSE to become synonymous with sparking community engagement for sustainable education.

5th International Conference on Sustainability Education

Theme: Educating for Climate Action and Sustainability

DAY
2

CLOSING CEREMONY



The chief guest for the ceremony was Mr. Sanjay Awasthi, Head, International Organization for Migration-India, and it was chaired by Mr. Pradip Burman, Chairman, Mobius Foundation. During this session, the recipients of the best paper and poster presentation awards were announced. Subsequently, concluding remarks were delivered by Mr. Praveen Garg, Ms. Abimbola Junaid, Ms. Bethany Davies, Mr. Aditya Pundir, Ms. Gayatri Raghwa and Mr. Bhavesh Swami.

society organizations and policymakers to catalyze further initiatives."

Ms. Abimbola Junaid, Partnerships Advocacy and Voice Manager, Population Matters:

"In a world with limited financial, technological, natural, and human resources, it is crucial for society to optimize resource use for sustainable development. Instead of narrowly focusing on single-issue goals, holistic approaches are needed to address systemic challenges globally. This includes open discussions about overpopulation and overconsumption. Population Matters advocates for global norms in educating the girl child, promoting gender equality, body autonomy, access to contraceptives, comprehensive sexual education, and global justice to end overconsumption. ICSE has played a vital role in advancing this agenda through sustainable education and innovative partnerships, emphasizing the importance of every choice contributing to a thriving and balanced population."

Ms. Bethany Davies, Research Fellow, ACER:

"The discussions in this conference have brought a sharp focus, allowing me to envision the future of education. I see a learning experience for children that prioritizes indigenous knowledge, fostering their agency as active participants in designing their education rather than passive consumers of content. I envision an education system that trusts both teachers and young people to engage in complex conversations about environmental emergencies, intertwined with issues like gender politics and economic inequality. This system would move beyond traditional grading, employing innovative measurements. Learning about the inspiring actions, especially the

Closing Remarks

Mr. Praveen Garg, President Mobius Foundation:

"It is imperative that we serve as a beacon of example, taking decisive action against climate change to pave the way for future generations. At Mobius Foundation, our emphasis lies in O3—Objectives, Outputs, and Outcomes.



The conference has yielded numerous outcomes, and the recommendations put forth will be presented to both civil

remarkable work of youth, fills me with hope for my daughter's future."

Mr. Bhavesh Swami, Lead, Clean Energy Policy & Engagements, The Climate Reality Foundation:

"There was lot of churning that happened in two days during ICSE, let us take the positive aspects from this experience, embrace the opportunity to learn from one another, and collectively move forward on this journey."

Ms Gayatri Raghwa, Environment Education expert UNEP-India:

"I've been part of Mobius Foundation since 2019, witnessing the inception of the ICSE conference and its remarkable growth, evolution, and maturation into a beautiful congregation. Each of your projects is truly commendable. The need of the hour for all of us as environment educators is not to work in silos but gather ourselves together. Let's showcase that India is a hub for remarkable environment-based projects, emphasizing the wealth of knowledge and inspiration available for all to learn from."

Mr. Pradip Burman, Chairman, Mobius Foundation:

"I would like to thank you all for joining us and generously sharing your experiences. It's heartening to engage in discussions that pave the way for partnerships in sustainability education. Within Mobius Foundation, our commitment is evident through initiatives like the 100 School Program focused on educating women in rural areas and, in collaboration with The Climate Reality Project, our Green School Program involving over 700 teachers dedicated to taking action on climate change. Notably, our diverse projects, such as Aakar and the bio-gas project, underscore our belief that education gains its true meaning when accompanied by tangible action."

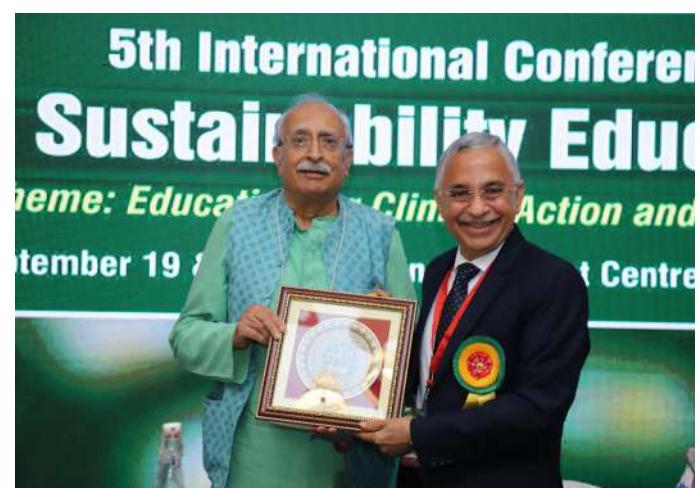
Mr Sanjay Awasthi, Head, International Organization for Migration-India:

"I want to express my deep appreciation to Mobius Foundation and partners for bringing together exceptional intellect and experience. Thanks to all speakers and participants for making this conference a treasure chest of inspiring ideas. The insights from the past two days highlight a multi-dimensional understanding of sustainability. Key points include strengthening climate resilience, enhancing water security, mainstreaming gender into climate responsiveness, and promoting circular economy education. While representing the International Organization for Migration, I wish to urge that under mission LiFE, the ambitious goal to mobilize at least one billion people to protect and preserve the environment must include the migrants too. As we conclude, I invite you all to view this opportunity for reflection, innovation and collaboration to collectively think and strengthen

migration management frameworks and reap the benefits of SDGs and the global compact for orderly and regular migration."

Vote of Thanks by Dr. Ram Boojh, Mobius Foundation

"I thank everyone for the successful culmination of the 5th ICSE 2023. This achievement wouldn't have been possible without the support of our 36 partners, including UN agencies, national and international organizations, industries, government bodies, grassroots organizations, teachers, educators, and youth. Notably, this conference marked a significant milestone with over 200 youth projects presented under our Youth for Earth initiative. The emphasis throughout the conference was on taking tangible action. Each session, whether conducted physically or virtually, was not only enriching but also thought-provoking. The event drew the participation of thousands of participants and featured 80+ contributed papers and posters from around the world, reflecting the enthusiasm of the academic community. The diverse knowledge systems gathered will be consolidated into a comprehensive report."





CONFERENCE RECOMMENDATIONS

1. Establish a National Carbon Pricing Mechanism with a Sector-Focused Approach:

Carbon pricing creates a financial incentive for reducing emissions by assigning a cost to pollution. It's considered one of the most effective market-based tools for emissions reduction. While India has explored carbon pricing ideas in the past, a comprehensive, economy-wide system is currently absent. Establishing such a mechanism would make India a leader in the region on progressive climate finance. Instead of a uniform carbon pricing system, a gradual, sector-based implementation may be considered. Beginning with high-emitting sectors like power generation, cement, and steel, with clear price signals and targets tailored to each sector's circumstances. This provides a predictable transition for industries.

2. Implement a Community-Based Ocean Literacy Program with Indigenous Knowledge Integration:

This program could be piloted in specific coastal communities in India, collaborating with local fishermen, indigenous communities, and environmental NGOs. The program could then be adapted and replicated in other regions based on the learnings and successes. It will integrate valuable indigenous knowledge about the ocean and its ecosystems alongside scientific information. This fosters respect for diverse knowledge systems and provides a more holistic understanding of the ocean.

3. Implement a Holistic Climate Change Education Framework for Schools:

Facilitate locally-driven climate actions and empower the younger generation to effectively address the looming climate crisis. Education in climate change needs to be integrated in various aspects of education systems- in curriculum, co-curricular activities, school governance, operations and facilities, teachers' training, teachers' resources, larger school community, local community and the overall systems' capacity.

4. Integrate Water Literacy (with a more comprehensive approach) into the Existing School Curricula Across All Levels (Elementary to Secondary):



While water literacy initiatives exist in some Indian schools, their integration across all levels and subjects in a comprehensive and age-appropriate manner would be a significant and unique approach. This recommendation emphasizes not only acquiring knowledge but also fostering critical thinking, responsible citizenship, and a sense of ownership towards water resources, distinguishing it from existing curriculum interventions.

5. Integration of Climate Change Capacity Building Program for Teachers in schemes such as Pandit Madan Mohan Malviya National Mission on Teachers and Teaching.

While existing initiatives in India address climate change education, a specific gap exists in systematic teacher support and development. This recommendation aims to address the identified discrepancy between teachers'

recognition of the importance of climate change education and their confidence levels in delivering it effectively. Through this Program, the emphasis will be on capacity building of teachers via pedagogical tools, curriculum design, and classroom implementation of climate change education in a school setting.

6. Promote Sustainable Design and Circularity through Producer Incentives:

Offer financial incentives or tax breaks for producers who design products with easier disassembly and recycling in mind. This can encourage eco-friendly product design and reduce the environmental impact of products driven towards circularity business model.



7. Promoting Biodegradable Packaging:

In India, the problem of plastic waste is particularly acute, with rapidly growing consumption and inadequate waste management infrastructure exacerbating the situation. To address this challenge effectively, there is a critical need for policy interventions that promote the development and adoption of biodegradable packaging materials. Key strategies include investing in research and development, providing incentives for businesses, establishing regulatory standards, conducting consumer awareness campaigns, strengthening waste management infrastructure, implementing public procurement policies, and fostering collaboration and partnerships.

8. Enhancing Family Planning Infrastructure and Capacity for Improved Reproductive Health:

The National Health Mission (NHM) under the Ministry of Health and Family Welfare (MoHFW) has seen a minuscule increase in budget allocation, rising to Rs. 31,967 crores from Rs. 31,550 crores in 2023-24 budget. The family welfare budget for 2024-25 is Rs. 1,602 crores, a marginal increase from Rs. 1,440 crores in the previous year. Additionally, for the fiscal year 2024-25, the allocation for family welfare schemes under central sector projects is Rs. 695 crores, up from Rs. 640 crores in 2023-24. As two new long-acting reversible contraceptives (SC-MPA injectable and Implants) have been introduced in the public health system, a larger allocation of budget is required for their roll-out and scaling up. The government has taken initiatives to improve access and quality of family planning services by implementing the Mission Parivar Vikas in 13 states, including all North Eastern states. The government has also introduced Family Planning Logistics Management Information System (FP-LMIS) to ensure smooth forecasting, procurement and distribution of family planning commodities across all the levels of

health facilities. The government needs to spend more on social and behaviour change communication (SBCC) and capacity building of healthcare providers. Based on these facts few recommendations are mentioned below:

- Strengthen the Family Planning Logistics Management Information System (FP-LMIS) to facilitate smooth forecasting, procurement and distribution of family planning commodities.
- Increase budget allocation specifically earmarked for the roll-out and scaling up of the newly introduced long-acting reversible contraceptives (SC-MPA injectable and Implants).
- Allocate resources for social and behavior change communication (SBCC) initiatives to promote awareness and uptake of family planning services.
- Allocate resources for capacity building programs focused on training healthcare providers in the effective delivery of family planning services, including the provision of the newly introduced contraceptives and ensuring quality care.



9. Expand and Integrate Existing Sustainability Data Platforms into a Comprehensive National Hub:

The idea is to leverage the existing work of the India Environment Portal, Open Government Data (OGD) platform, and other smaller initiatives for a consolidated hub, emphasizing on seamless integration of datasets from diverse sources, standardized presentation of data, and intuitive visualization tools for all users. This platform can further be utilised to offer training, workshops, and resources for stakeholders across various sectors on how to effectively use the data for research, policy development, business decisions, and innovation.

10. Foster Collaboration Between Academia and Industry to Cultivate Sustainable Startups:

Addressing global sustainability challenges requires fostering innovation and entrepreneurship, particularly in the development and implementation of sustainable solutions. This necessitates collaboration between academia and industry, where academic institutions offer research and knowledge expertise, and industries provide real-world experience and market access.

11. Integrate Ecosystem Restoration into National Skill Development Mission (NSDM) and Skill India Programs:

While India has a strong focus on skill development, it

currently lacks specific programs tailored towards ecosystem restoration professions. Equipping youth with the necessary skills through National Skill Development Mission (NSDM) and Skill India programs will empower them to participate meaningfully in ecosystem restoration projects, addressing the crucial need for skilled professionals in this field.

12. Implement a National Citizen Science Education Program for Youth:

The program can be specifically designed for young people (aged 18-25) to engage them in citizen science projects addressing critical environmental challenges across India. By implementing this program, India can create a dedicated platform for youth leadership in citizen science, fostering a generation of passionate and skilled individuals equipped to address environmental challenges and contribute to a sustainable future.

13. Develop a Climate Action Corps comprised of youth and empower them

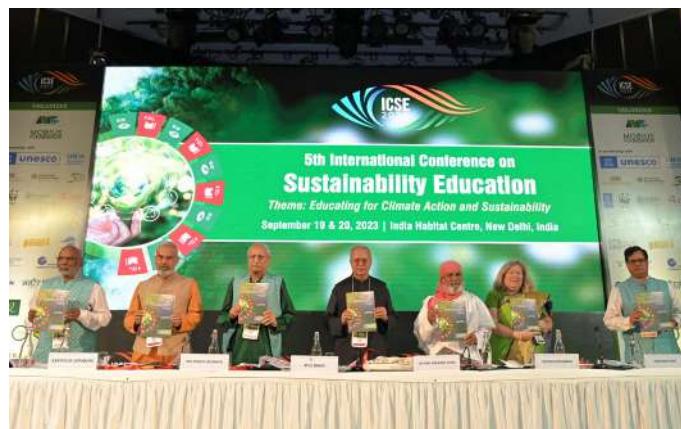
as community changemakers:

The program can be designed for young individuals (aged 15-25). Corps members will undergo intensive training on climate change science, environmental policy, communication and leadership skills. Upon completion of training, they will be deployed to their respective communities for a fixed term for conducting community outreach, collaborate with local stakeholders and mentor and engage younger students, fostering intergenerational dialogue and action on climate change.

14. Establish an online platform dedicated to supporting and promoting small green entrepreneurs across India:



A dedicated online platform would provide small green entrepreneurs with a prominent space to showcase their innovative solutions and environmentally conscious endeavors. By highlighting their work on a global scale, these entrepreneurs can gain recognition for their contributions to sustainability and attract the attention of potential partners, investors, and supporters.





POSTER WINNERS

This year, we received an overwhelming response of more than 80 papers and posters from various national and international universities and colleges, focused on climate change, biodiversity, ecosystems, sustainability education, etc.



1st Prize - Ms. Harshi Jain

GIS Centre, Forest Research Institute (FRI), New Forest- Dehradun. Topic - Establishing Spatial Relation Between Topo-Climatic Variables and Forests of Indian Western Himalayas.

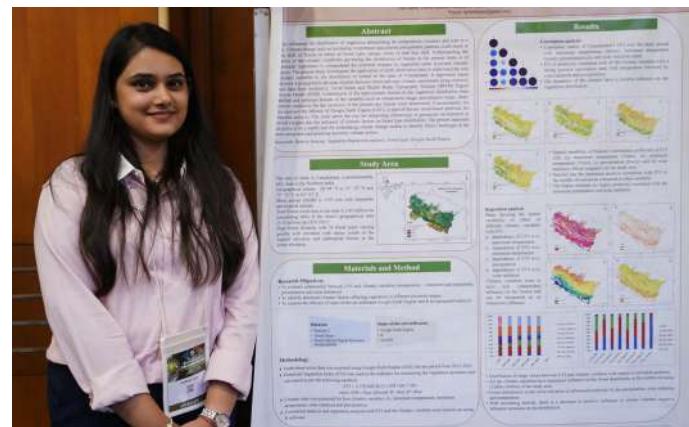
2nd Prize - Ms. Upma Garg

Department of Environmental Studies, Delhi University, New Delhi Topic - Impact of Neltuma Juliflora and Ecological Restoration on Managed Ecosystem of Kamla Nehru Ridge, Delhi, India.

3rd Prize - Mr. Sagar Chawan, and Ms. Amitasha Soni & Ms. Sasha Soni

1. Mr. Sagar Chawan, Department of Biochemistry, School of Bioengineering and Biosciences, Lovely Professional University, Punjab. Topic - Seaweed Extracts as A Sustainable Solution: Enhancing Liquid Fertilizer for Improved Germination and Growth of Capsicum Annum & Solanum Melogena.

2. Ms. Amitasha Soni & Ms. Sasha Soni, students, DPS -Bilaspur, Chhattisgarh. Topic - Wonder Weevil for Water Hyacinth Control.



Ms. Harshi Jain



Ms. Upma Garg



Mr. Sagar Chawan



Jury members



Ms. Amitasha Soni & Ms. Sasha Soni

ORAL PRESENTATION WINNERS



This year, 80 abstracts resulted in 9 winners for oral presentations across 3 sessions in the 2-day ICSE event. 9 best oral presentations based on the themes were assessed, awarded and presented with a memento during the closing ceremony.

1st Prize - Ms. Jhinoor Mitra

Estuarine and Coastal Studies Foundation, West Bengal.

Topic - Hourly Variation of Mesozooplankton and Environment of Thakuran Estuary, Indian Sundarbans.

2nd Prize - Mr. Chandan Das, Ph.D.

Environmental Sciences, SES, JNU, New Delhi.

Topic - Assessing the Health of Biodiversity Using City Biodiversity Index in a Fast Expanding Urban Sprawl: Lessons from Faridabad, India.

3rd Prize - Mr. Sachin A. Rosario & Ms. Akshata G. Athreya

Assistant Professor, Dept. of Environmental Science, Surana College, Bengaluru and Assistant Professor, Dept. of Microbiology, M. S. Ramaiah College of Arts Science and Commerce, Bengaluru, respectively. Topic - Assessing and Optimizing Answer Booklet Page in Exams: A Sustainable Approach to Reduce Carbon Footprint in Educational Institutions.

1st Prize - Ms. Vani Bhardwaj

Ph.D. Scholar, IIT Guwahati.

Topic - The Spectrum of Gender Justice in Sustainability Education for Climate Justice.

2nd Prize - Mr. Rahul Chopra

Centre for Sustainability, Environment, and Climate Change, FLAME University, Pune, Maharashtra.

Topic - Democratizing Climate Knowledge: Making Climate Change Education Accessible to All.

3rd Prize - Dr. Alka Behari

Professor, Dept. of Education, Delhi University, New Delhi.

Topic - Re-Envisioning Teacher Preparation from the Perspective of Education for Climate Action and Sustainability.

1st Prize - Mr. Alexander Amirtham

Greens Biodiversity Sanctuary, Tamil Nadu.

Topic - Food Security Climate Education for Schools is a Need of the Hour.

2nd Prize - Ms. Sneha Shahi

Ph.D. Scholar, Atree, Bangalore.

Topic - Rivers and Their Evolving Relationships with Society.

3rd Prize

“A Smart and Sustainable Framework to Combat Climate Change: A Comprehensive Approach of Artificial Intelligence and Human Psychology”

Ms. Prerna Maheshwari, Jesus and Mary College, Delhi University, New Delhi

CULTURAL EVENING

The first day of the conference, September 19, ended with a series of cultural performances of skits, dances and songs by the students of Gyan Anant Vidyalaya (GAV), a group performance by Naga youth from Climate Studies & Knowledge Solution Centre, Government of Nagaland and the children of DAV School in Pushpanjali, Delhi.





5th International Conference on Sustainability Education

Educating For Climate Action and Sustainability



**A Clarion Call
for Climate Action**

Day 1

September 19, 2023 | India Habitat Centre, New Delhi, India

Leading with Climate Commitment: Inaugural Session

Day one of the 5th International Conference on Sustainability Education was inaugurated at India Habitat Centre in New Delhi. Post the ceremonial lamp lighting, beautiful welcome song by students of Gyan Anant Vidyalaya and an inspiring welcome address by Dr. Ram Boojh, CEO, Mobius Foundation, the conference went straight into the important issues regarding climate and sustainability with insightful addresses by the panelists.



“Education can play an important role not only by creating awareness but by focusing on what we can really do. We know what needs to be done and what is needed is ‘action’, and all of us can do our bit for it. Indeed these conferences have been at a forefront to further the cause of sustainability”

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

“In the light of the Paris agreement, this is a remarkable event. The realisation of the Paris agreement depends on taking positive steps towards climate action with such events, and all of us will try to get the Paris agreement on ground. The education on climate action will be a key focus area of this conference. Let us seize this opportunity to take necessary steps to make a better world for future generations”

-Dr. Rajendra Singh, Magsaysay Awardee, “Water Man of India” & Chairman, People’s World Commission on Drought and Flood

”



Blueprint for a Sustainable Tomorrow: Opening Plenary Session

The opening plenary session saw a distinguished panel of keynote speakers sharing expert opinions based on their unique experiences. Viewpoints encompassing all aspects of the environment, namely the ocean, land and air resonated throughout, highlighting the holistic aspect of climate action. A key message that emerged throughout was the need to fill the gap between the knowledge discourse of experts and that of policymakers.

Diving Deeper into Sustainability: Thematic Sessions

With the cornucopia of ideas to be discussed and debated in a limited time, the event branched into six Thematic Sessions post lunch. Each session addressed a critical facet of sustainability, climate action, and societal transformation.



- **Private Sector Engagement in Climate Action** focused on the private sector's role in climate action, emphasising emissions reduction strategies, green energy endeavours, and the importance of sustainability education.
- **Building a Multi-country Civil Society Partnership to Increase the Resilience of Coastal Population in South Asia** emphasised ocean literacy, the potential for meteorology education in schools and the effects of mangrove depletion in South Asia.
- **Integrating Climate Change in Education Systems** highlighted the importance of region-specific resources, flexible educational frameworks, actionable classroom knowledge, stage-specific education, and the need for holistic, experiential learning in integrating climate change into education systems.
- **Water Literacy: Water Insights on Climate Change for Sustainable Future** reiterated the critical role of media in promoting water literacy, the potential of wastewater reuse, the importance of community participation, and innovative solutions for water treatment and reuse
- **Closing the Loop: Empowering Climate Action through Circular Economy Education** highlighted the significance of the circular economy, sustainable packaging alternatives, green job opportunities, innovative waste management, and advancements in bioplastics for effective climate action through education.
- **Women Writers in Sustainability: Old Dilemmas, New Realities** focused on the interplay between gender roles and sustainability, highlighting the underrepresentation of women in decision making and encapsulated the role of institutional support while celebrating the increasing prominence of women decision-makers.



Detailing the Way Forward: Evening Sessions

As in the Thematic Sessions, the evening session too saw a plethora of concurrent panels discussing climate and sustainability education. The 2nd Plenary Session moderated by Mr. Rajdeep Sardesai, Consulting Editor and Anchor, India Today, saw passionate discussion on the role of education in population, climate action and sustainable development. A conclave on sustainable thought leadership stressed the need for leaders who think from the heart as an answer to the crisis of thoughtful leadership, and emphasised practical knowledge.

The conference also had a poster presentation on the topic of climate change. Participants from all over the country and comprising people as young as class 6 students, all the way to experienced Ph.D. scholars, showcased their creative streak.

The highlight of the evening sessions was the launch of SASEANEE, the South and Southeast Asia Network for Environmental Education, which has been established through the joint efforts of the Centre for Environment Education (CEE), Foundation for Environmental Education (FEE), the Northern American Association for Environment Education (NAAEE), IUCN CEC, Earth Charter and Mobius Foundation. The network will be important in studying and mitigating environmental problems across political borders.



“People are receptive to the idea of population control, and education along with interventions like contraception has played a key role in it. However, there is a need for these interventions to reach out to remote and rural masses for wide-scale impact.

**-Mr. Pradip Burman
Chairman, Mobius Foundation**

A Vibrant End to Day 1 of ICSE 2023

An inspiring musical act by students of Gyan Anant Vidyalay (GAV), a soulful group performance by youths from Nagaland, followed by a rousing dance performance by DAV School students, made for a mesmerising denouement to the first day of the conference. Through their artistic endeavours, the young performers conveyed the message of how tradition can walk hand-in-hand with sustainable learning practices. Following the children's captivating performances, the day concluded with an appetising dinner.

Overwhelmingly, the conference advocated urgent, immediate and cooperative action on climate change. The need for collaboration and collective responsibility among all stakeholders was a constant motif throughout all sessions. The inaugural evening set the bar high, reminding attendees that the path to sustainability is enriched by embracing the wisdom of our ancestors and the proven practices of contemporary innovators.





5th International Conference on Sustainability Education

Educating For Climate Action and Sustainability



**A Clarion Call
for Climate Action**

Day 2

September 20, 2023 | India Habitat Centre, New Delhi, India

Engaging Youth and Charting the Way Forward

Day 2 of the 5th International Conference on Sustainability Education resumed at India Habitat Centre in New Delhi with a dance performance by the students of St. Mary School, Dwarka. The enthralling show was followed by the announcement of the winners of the Youth for Earth Campaign 2023.

Mr. Aditya Pundir, Director, The Climate Reality Project, highlighted the situation of climate change referring to the increase in global temperatures and frequent flooding. The esteemed jury members focused on the goals of the Paris Agreement and the vision to reduce emissions.

Two books, "Birds of Jammu and Kashmir including Ladakh" by Parvaiz Yousuf and "Climate Actionneers' Primer; A Beginners Toolkit", co-authored by Anand Pendharkar were also launched.

Discussions on the way forward centered on involving the younger generation by sensitising them to, and incentivising working at, the intersection of technology, innovation and behavioural change.



Junior Category

Consolation 2: Team Finobaadi, Government Sarvodaya Bal Vidyalaya

Consolation 1: Project BeejGole, Adarsh Vidyamandir

Third Prize: Project Passionately Natural, TVS Academy

Second Prize: Project BACWP, Iconic School

First Prize: Project Neerja, Tribal Residential School



Senior Category

Consolation 2: Chasurat University

Consolation 1: Beat Plastic Pollution by Nature Protection Society

Third Prize: Polyfueler, Sershah Engineering College, Sasaram

Second Prize: Team Nirmiti, St. Joseph's University Bangalore

First Prize: Project TAMIRASES, Ashoka Trust for Research in Ecology and Environment

Special Mention: SD Vidya Group, Ambala



Advancing the Sustainability Agenda: Thematic Sessions

The day unfolded with a dynamic series of six thematic sessions, each delving into a unique and diverse range of topics.



Moving Towards Sustainable Development Through Mission LiFE (Lifestyle for Environment)

The session underscored the importance of interdisciplinary learning and the pivotal role of behavioural change in advancing sustainable development. By stressing the concept of "Critical Mass Change," the conversations brought into focus the requirement for grassroots actions. These actions encompassed education, water conservation initiatives, and collaborative knowledge sharing across various sectors to truly make a lasting impact on sustainability.

Teaching Disciplined Entrepreneurship to Create 100 New Sustainability Ventures

The session highlighted the critical role of disciplined entrepreneurship in driving sustainable solutions and underscored the importance of aligning ventures with social, economic, and environmental sustainability. Emphasis was placed on the need for practicality, value generation, and collaboration, with group discussions focusing on tangible challenges, the significance of mentorship, and the availability of funding for budding entrepreneurs in the sustainability sector.



Education Challenge to Embed Ecosystem Restoration into Educational Systems Worldwide

The session emphasised the urgency of Ecosystem Restoration Education (ERE) in the context of the UN Decade of Action's agenda, with guidance from UNESCO on leveraging designated sites for environmental education. The Namami Gange Program was showcased for its holistic approach to Ganga Basin restoration and its global recognition by the UN for its efforts in ecosystem revival.

Sustainability Education: Role of Schools, Colleges and Universities

The session advocated treating students as future workforce and the importance of practical knowledge to solve issues. The importance of the role of students in mass participation and enhancing collaboration was highlighted.

Oral Presentations: Diverse Perspectives on Climate, Sustainability, and Education

In this engaging session, presenters brought forth an array of topics from diverse backgrounds, all interconnected by their relevance to the realms of climate change, sustainability, and education. Discussions spanned various subjects, including the benefits and drawbacks of natural-based solutions (NBS), reimagining teacher preparation for climate education, exploring water-related challenges in India, and democratising climate knowledge. Gender justice and sustainability education, as well as innovative urban learning approaches, were also explored.

Science, Technology and Innovation for Sustainable Living

The session highlighted an overview about sustainable development and innovation, recognising the interconnectedness of economic growth, social well-being, and environmental protection. Prominent examples like Google's Project Sunroof, the initiative to help individuals estimate savings via roof top solar power were discussed.



Pioneering Pathways Ahead: Reorienting Sustainability

The day evolved with a series of six additional thematic sessions, each offering a unique and comprehensive exploration of topics related to sustainability.

Empowering Conservation Through Citizen Science: Engaging Communities for a Sustainable Future & Impact Assessment for Environment Education Programmes

Emphasising the central role of education in achieving sustainability, the dialogue highlighted the significance of integrating environmental themes into formal curricula and informal community engagement, while also stressing the transformative power of citizen science as a collaborative tool for data collection, community empowerment, and fostering behavioural change for a sustainable future.



Engaging Youth Through Education and Advocacy for Solutions to Plastic Pollution through UNEP's Tide Turners Plastic Initiative

Highlighting the critical role of youth in addressing plastic pollution, the session underscored the importance of environmental education, advocacy, and green entrepreneurship. It emphasised the multifaceted approaches to plastic waste management, recycling challenges, and the unique opportunities presented by the Tide Turners Plastic Initiative to engage young individuals in sustainable solutions.

Intergenerational Dialogue on Re-imagining Education for a Climate Resilient Future

The session emphasised the urgent need to integrate sustainability and climate resilience into the educational system, along with the importance of hands-on experiences and holistic understanding of the environment. The power of youth engagement was highlighted individual responsibility and intergenerational collaboration for a climate-resilient future were championed.

Role of Sustainability Education in amplifying Nature based Solutions for Climate Action

In this session, the pivotal role of sustainability education in advancing nature-based solutions for climate action took the spotlight. It emphasised the value of grassroots and local approaches, the importance of historical context, the engagement of the private sector, and the utilisation of traditional knowledge for comprehensive conservation efforts and the empowerment of communities.

Green Entrepreneurship & its Potential in the New World

During this session, the significance of grassroots initiatives in entrepreneurship was underscored, along with the potential for exploring untapped markets in communities. Additionally, there was an acknowledgment of the necessity for more extensive discussions on fundraising within the climate sector.

Oral Presentations: Exploring Diverse Perspectives on Climate and Society

This session featured researchers presenting their studies on a diverse array of topics. These included the evolving relationships between rivers and society, the connections between plastics and climate, and the imperative for climate education to ensure food security.

ICSE 2023 Concludes with Insightful Sessions and Future Directives

The International Conference on Sustainability Education 2023 (ICSE2023) concluded its eventful journey with an enriching plenary session. A presentation encapsulating the summaries and recommendations of the diverse sessions, was delivered by **Ms. Anupama Madhok Sud**, Director & Editor, Water Digest.

Mr. Pradip Burman, Chairman of the Mobius Foundation, emphasised initiating tangible actions for environmental conservation and highlighted projects focusing on ecological balance and conservation. Esteemed panelists, including **Ms. Bethany Davies, Ms. Abimbola Junaid, Mr. Sanjay Awasthi, Ms. Gayatri Raghwa, Mr. Bhavesh Swami, and Mr. Praveen Garg**, underscored the importance of

united, multifaceted efforts and ecological awareness to address environmental challenges, acknowledging the pivotal roles of migration and private sectors in achieving sustainability objectives aligned with the 2030 agenda.

Dr. Ram Boojh, CEO of the Mobius Foundation, expressed gratitude to all attendees and emphasised the importance of knowledge dissemination and practical demonstration as means to educate. The conference's holistic approach, encompassing diverse themes and inclusive dialogues, served as a clarion call to action, representing a significant stride towards a sustainable and resilient future.

DIGITAL CAMPAIGN



**TOTAL
IMPRESSIONS**

2.7M

**PEOPLE
REACHED**

2.2M

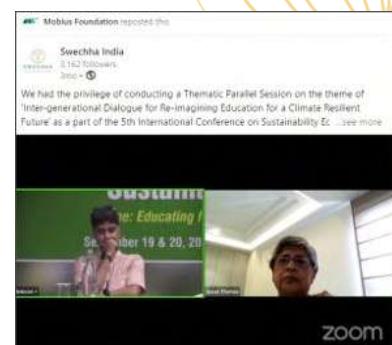
**PEOPLE WHO
ENGAGED**

85.5K



POSTS
355

VIDEOS
228



5TH INTERNATIONAL CONFERENCE ON SUSTAINABILITY EDUCATION

Theme: Educating for Climate Action & Sustainability

September 19 & 20, 2023 | India Habitat Centre, New Delhi, India

PROGRAM SCHEDULE

DAY 1 : TUESDAY, SEPTEMBER 19, 2023		
8:30 - 09:30	REGISTRATION	Stein Auditorium Foyer
09:30 - 11:30	<p>INAUGURAL CEREMONY</p> <p>Screening of the ICSE look-back film</p> <p>Lighting of the Lamp & Inauguration by Chief Guest: Shri Atul Bagai, Country Head UNEP - India, and all the other dignitaries</p> <p>Welcome Song: GAV School Students</p> <p>Welcome & Introduction: Dr. Ram Boojh, CEO Mobius Foundation</p> <p>Special Message: Dr. Jane Goodall, DBE, Founder - The Jane Goodall Institute & UN Messenger of Peace (video message)</p> <p>Keynote Address: Shri Kartikeya Sarabhai, Founder Director, Centre for Environment Education (CEE)</p> <p>Address by Guests of Honour:</p> <ul style="list-style-type: none"> Ms. Donna Goodman, Founder Earth Child Institute, USA Dr. Anil Prakash Joshi, Founder HESCO <p>Address by Mr. Praveen Garg, IAS (Retd.) President, Mobius Foundation</p> <p>Address by Mr. Pradip Burman, Chairman, Mobius Foundation</p> <p>Address by Chief Guest: Shri Atul Bagai, Country Head UNEP - India</p> <p>Concluding remarks and vote of thanks: Dr. Ram Boojh, CEO, Mobius Foundation</p>	Stein Auditorium
11:30 - 12:00	TEA/COFFEE BREAK	Stein Auditorium Foyer
12:00 - 13:00	<p>OPENING PLENARY - Setting The Agenda</p> <p>Chair: Mr. Kartikeya Sarabhai, Founder and Director, CEE</p> <p>Co-Chair / Moderator: Dr. Ram Boojh, CEO Mobius Foundation</p> <p>Keynote Speakers:</p> <ul style="list-style-type: none"> Dr. Ajay Mathur, Director General, International Solar Alliance, ISA (video message) Ms. Antonella Vassallo, Managing Director, International Ocean Institute, University of Malta Ms. Joyce Poan, Chief of Education, UNESCO, India Dr. Dipankar Saharia, Regional Senior Director, Centres at TERI Mr. Sam Barratt, Chief of Youth, Education & Advocacy Unit, UNEP-Nairobi, Kenya 	Stein Auditorium
13:00 - 14:00	LUNCH	Charminar Area

14:00 - 15:30

SPECIAL THEMATIC SESSIONS

(Venue under each session)

Session 1 SILVER OAK 1	Session 2 SILVER OAK 2	Session 3 JACARANDA 1	Session 4 JACARANDA 2	Session 5 MAGNOLIA	Session 6 MAPLE
<p>CDP Theme: Private Sector Engagement in Climate Action Speakers: 1. Moderator: Ms. Prarthana Borah-Director CDP 2. Mr. Santhosh Jayaram, Global Head - Sustainability HCL Tech 3. Mr. Ashu Kalra, Vice President, Head of Global Corporate Real Estate and Environment Sustainability, EXL Services 4. Mr. K.K.Sharma, Wholetime Director, EHS, DCM Shriram Ltd. 5. Mr. Ajay Kumar Pillai, Risk Advisory, Deloitte, India</p>	<p>TERRE Policy Centre Theme: Building a multi-country civil Society partnership to increase the resilience of coastal population in South Asia Speakers: 1. Chair: Mr. Leonard Sonnenschein, President Conservation for the Oceans Foundation 2. Mr. Kanna K. Siripurapu, Senior Fellow, SaciWaters 3. Mr. Sunil Murlidhar Shastri, Consultant, Educator, & Speaker 4. Ms. Antonella Vassallo, Managing Director, International Ocean Institute, University of Malta 5. Moderator: Dr. Vinitaa Apte, Founder Director, TERRE Policy Centre</p>	<p>UNESCO & CEE Theme: Integrating Climate Change in Education Systems Speakers: 1. Mr. Kartikeya Sarabhai Founder and Director, CEE 2. Prof. Sunita Farkya, Head, DESM, NCERT 3. Ms. Joyce Paon, Chief of Education, UNESCO India 4. Dr. R. Begur, Education Specialist UNICEF India 5. Ms. Olivia Copsey, Director of Education, FEE Denmark 6. Ms. Heeta Lakhani, Youth Activist & Climate Educator, Green Warriors 7. Ms. Tushita Rawat, Program Manager, Environment Education, Centre for Science and Environment (CSE), Delhi 8. Dr. Shweta Purohit, Program Director (Climate Change), CEE</p>	<p>Water Digest Theme: Water Literacy - Water Insights on Climate Change for Sustainable Future Speakers: 1. Ms. Anupama Madhok Sud, Director & Editor, Water Digest 2. Shri R.S. Tyagi, Expert Advisor, National Institute of Urban Affairs (NIUA), Ex-Member - Delhi Jal Board (DJB)* 3. Mr. Anshuman, Director, Water Resources Division, TERI* 4. Ms. Anjali Makhlifa, Chief Executive Officer, S.M. Sehgal Foundation 5. Ms. Arya. V, Ph.D. Assistant Professor, Department of Civil Engineering, Indian Institute of Technology Delhi 6. Dr. Jagdish Kumar, Senior Assistant Director & Chief, Shriram Institute for Industrial Research</p>	<p>IIT Guwahati & Central Institute of Technology, Kokrajhar Theme: Closing the Loop - Empowering Climate Action through Circular Economy Education Speakers: 1. Chair: Dr. Vimal Katiyar, Dean, R&D IIT Guwahati 2. Co-Chair: Mr. Prabhjot Singh Sodhi, Senior Programme Director, Circular Economy, CEE Ahmedabad 3. Dr. Avik Mukherjee, Associate Professor Department of Food Engineering and Technology, Dean, R&D 4. Dr. Santosh Kumar, Assistant Professor Department of Food Engineering and Technology, Head of Department Food Eng. and Technology 5. Dr. Manoranjan Hota, Advisor Skill Council of Green Jobs, Ex Advisor MoEFCC, Gol 6. Mr. Bhaskar Lath, Sr. Manager, Business & Strategy, ReCity, Mumbai</p>	<p>Green Lit Fest Theme: Women Writers in Sustainability - Old Dilemmas, New Realities Speakers: 1. Moderator: Ms. Megha Gupta, Head, Youth Programme at the Green Literature Festival 2. Ms. Donna Goodman, Founder Earth Child Institute, USA 3. Ms. Meena Raghunathan, Environment Educator, Author 4. Ms. Neha Sinha, Conservation Biologist, Author and Columnist 5. Ms. Neha Dara, Head Round Glass Sustain 6. Ms. Kavitha Iyer, Journalist & Editor</p>

15:30 - 16:00

TEA/COFFEE BREAK

Stein Auditorium Foyer

16:00 - 17:30	<p>2nd PLENARY SESSION</p> <p>VIRAM: Agenda Sustainability Population, Climate Action and Sustainable Development - Role of Education and Empowerment</p> <p>Moderator: Mr Rajdeep Sardesai, Consulting Editor & Anchor, India Today (English) Moderator: Mr Sayed Ansari, Anchor Aaj Tak (Hindi) Opening Remarks- Mr. Pradip Burman, Chairman Mobius Foundation</p> <p>Panel Discussion by India Today Group - 'Climate Action, Sustainability and Population Dynamics - Placing Girls and Women in Focus'</p> <ul style="list-style-type: none"> Ms. Poonam Muttreja, ED, PFI Mr. David R.T. Richardson, CEO, Population Crisis, UK Mr. Alistair Currie, Head of Campaigns and Communication, Population Matters Ms. Nandita Bajaj, Population Balance, USA (online) <p>Panel Discussion by Aaj Tak - 'जनसंख्या, जलवायु, और जीवन'</p> <ul style="list-style-type: none"> Dr. Govind Singh, Dean Research Studies, Indian Institute of Mass Communication, Delhi Dr. Ram Boojh, CEO, Mobius Foundation Mr. Kartikeya Sarabhai, Founder and Director, CEE Ms. Huma Masood, Senior Gender Specialist, UNESCO <p>Concluding Remarks: Dr Ram Boojh, CEO Mobius Foundation</p>	Stein Auditorium
17:30 - 18:30 (Special Plenary)	<p>SUSTAINABILITY THOUGHT LEADERS CONCLAVE</p> <p>Chairman: Dr. Erach Bharucha, Director, BVIEER, Pune</p> <ul style="list-style-type: none"> Mr. Leonard Sonnenschein, President Conservation for the Oceans Foundation Mr. Deepak Jain, Delhi Management Association, Chairman-ESG Committee Mr. Jadav Payeng, Environmentalist, Forest Man of India, Assam Dr. G.D. Sharma, President Association of India University and V.C., Uni. of Sci. & Technology Meghalaya, Shillong Ms. Bhuvana Santhanam, Head Global Outreach, Sri Satya Sai University of Human Excellence, Bangalore Mr. Dilip Surkar, Executive Director, VASCSC, Ahmedabad 	Silver Oak
	<p>POSTER PRESENTATIONS</p> <p>Chair: Dr. Ravichandran, Associate Professor, Lovely Professional University Jury: Ms. Radhika Bhagat, Founder, Sacred Earth Trust</p>	Jacaranda Foyer
	<p>UNITED TOWARDS SUSTAINABILITY Launch of SASEANEE by CEE: South and Southeast Asia Network for Environmental Education</p> <p>Moderator: Ms Radhika Suri, Senior Programme Director, CEE, New Delhi</p> <p>Speakers:</p> <ul style="list-style-type: none"> Mr. Kartikeya Sarabhai, Director, CEE Mr. Sam Barratt, Chief of Education, Youth and Advocacy for UNEP, Nairobi, Kenya Dr. Hiroko Shibakawa, Assistant Professor, Okayama University, Japan Dr. Bethany Davies, Research Fellow, Australian Council for Educational Research (ACER), Australia Dr. Umesh Kumar Mandal, Professor and Head, Central Department of Geography, Tribhuvan University, Nepal Ms. Michelle Dilhara, Environmentalist, author, film/TV star, & ICSE Youth Ambassador, Sri Lanka Ms. Rokeya Khaton, Director General, South Asia Cooperative Environment Programme (SACEP), Bangladesh (Online) Mr. Sean Southey, President and Co-Founder of Zamia Media, Chair, Commission on Education and Communication, IUCN, Canada (Online) Dr Cheryl. Charles, Member of the Steering Committee- Co-Chair #NatureForAll for the International Union for the Conservation of Nature's Commission on Education and Communication (CEC), Co-Founder, President and CEO Emerita of the Children Camp, Nature Network, USA (Online) 	Stein Auditorium

	<ul style="list-style-type: none"> • Dr. Pramod Kumar Sharma, Senior Director of Education, FEE, Denmark (Online) • Mr. Nalaka Gunawardene, Science Communicator and Media Educator, Sri Lanka (Online) • Ms. Nina Hamilton, Senior Manager, International Programs and EE 30 Under 30 at North American Association for Environmental Education (NAAEE), USA (Online) 	
17:30 - 18:30	ORAL PRESENTATIONS Chair: Prof. Z.H. Khan, Zaheer Science Foundation Dr. Divya Agarwal, Professor, Jesus and Mary College, University of Delhi Dr. Abhadesh Gangwar, Focal Point, RCE Srinagar	Jacranda
18:30 - 19:30	CULTURAL EVENING Performances by: <ul style="list-style-type: none"> • Gyan Anant Vidyalaya (GAV) • Group Performance by Nagaland youths, Climate Studies & Knowledge Solution Centre, Govt. of Nagaland • DAV School, Pushpanjali, Delhi 	Stein Auditorium
19:30 onwards	DINNER	Charminar Area
DAY 2 : WEDNESDAY, SEPTEMBER 20, 2023		
8:30 - 09:30	REGISTRATION	Silver Oak Foyer
09:30 - 11:00	3rd PLENARY SESSION YOUTH CONCLAVE: Youth for Earth 2023 Awards Ceremony Moderators: Ms Riya Deb, Engagement Officer, The Climate Reality Project, India Ms. Michelle Dilhara, Environmentalist, author, film/TV star & ICSE Youth Ambassador, Sri Lanka Lighting the lamp Mr. Burman, Mr. Kamal, Dr. Boojh, Mr. Aditya Performance by the youth of St. Mary's, Dwarka Address by Mr. Aditya Pundir, Director India and South Asia for The Climate Reality Project Address by jury members: <ul style="list-style-type: none"> • Ms. Alka Tomar, President, CEC • Dr. B.C. Sabata, Add. Director (R & D), KIIT Deemed University • Dr. Madhu Bhatnagar, ECP, TSRS. • Ms. Neha Raghav, Associate Director, WWF Distribution of Awards Book Launch Special address by Ms. Iwona Gin, Head of European Projects at Nausicaa, National Sea Experience Centre in France Vote of Thanks: Dr. Bhagyashree Kesherwani, Programme Associate, Mobius Foundation	Silver Oak
11:00 - 11:30	TEA/COFFEE BREAK	Silver Oak Foyer

11:30 - 13:00		SPECIAL THEMATIC SESSIONS				(Venue under each session)
Session 7 SILVER OAK 1	Session 8 SILVER OAK 2	Session 9 JACARANDA 1	Session 10 JACARANDA 2	Session 11 MAGNOLIA	Session 12 MAPLE	
TERI Theme: Moving towards Sustainable Development through Mission LiFE (Lifestyle for Environment) Speakers: 1. Dr. Neha, Senior Fellow, Strategic Communication for Sustainability, TERI (Moderator) 2. Dr. Livleen K. Kahlon, Associate Director, TERI, New Delhi 3. Dr. Dipankar Saharia, Senior Director, TERI, New Delhi 4. Mr. Anshuman, Director, Water Resources Division of TERI & Winner of Mission LiFE 5. Ms. Saumya Sil, Revenue Officer (WBCS) 6. Ms. Shashi Banerjee, Director, Shiv Nadar Schools 7. Shri Rupeshvara Gaurang Das, From ISKCON, Lifestyle Coach, Motivational Speaker, Counsellor and Guide 8. Dr. Amit Tuteja, Founder, Connecting Dreams Foundation	The Sustainability Mafia Theme: Teaching Disciplined Entrepreneurship to Create 100 New Sustainability Ventures Speakers: 1. Tarun Gangwar, Academic Director, Master's Union 2. Sreyashee Das, CEO, AIC, Sangam Foundation 3. Prof. J. Dhariwal, Assistant Prof. Department of Design, IIT-Delhi 4. Prof. Vimal Katiyar, Dean R&D IIT-Guwahati 5. Mr Arjun, Director, The Sustainability Mafia 6. Mr. Sachin Arya, Head & Alumni, Pilani Innovations and Entrepreneurship Development, (PIEDS) Society, BITS Pilani 7. Mr. Sunil Kumar, Environment Engineer, NMCG	FEE Theme: Education Challenge to Embed Ecosystem Restoration into Educational Systems Worldwide Speakers: 1. Ms. Radhika Suri, Senior Programme Director, Global Networking and Early Childhood Education, CEE 2. Mr. Oisín Gill, Consultant, Education for Sustainable Development, UNESCO (online) 3. Mr Arnau Macià Pou, Coordinator & Project Manager, Foundation for Environmental Education (FEE) (online) 4. Mr Harcharan Singh Rumana, Co-Lead Biodiversity, Afforestation Wetland Conservation at National Mission for Clean Ganga (NMCG) 5. Mr. Sunil Kumar, Environment Engineer, NMCG	Kalinga Institute of Industrial Technology Theme: Sustainability Education – Role of Schools, Colleges and Universities Speakers: 1. Facilitator : Dr. B.C. Sabata, Add. Director (R & D), KIIT Deemed University 2. Dr. Subrat Kumar Panigrahi, Principal, Saraswati Degree Vidya Mandir, Odisha 3. Dr Hiroko Shibakawa, Asst. Professor, ESD Promotion Centre Graduate School of Education, Okayama University 4. Dr. Suraj K. Tripathy, Associate Dean, School of Chemical Technology, KIIT 5. Mr. Rashmi Raj Biswal, Principal, DAV School, Pitampura, Delhi 6. Dr. Monika Mehen, Principal, DAV School, Dwarka, Delhi 7. Dr. Sankar Bej, Principal, Khandadeuli High School, Odisha	Oral Presentations Chair: Dr. Manmohan Yadav, IIFM, Bhopal Dr. Tabassum Jamal, Chairperson, Zaheer Science Foundation	Pushpa Gujral Science City Theme: Science, Technology and Innovation for Sustainable Living Speakers: 1. Dr. Neelima Jerath, Director General, PGSC 2. Mr. Shubham Tandon, Project Officer-Resilience, Action for Climate Change and Environment (ACE) unit of UNDP 3. Ms. Namita Gupta, Adviser/ Scientist-G and Head of "Innovation in Science Pursuit for Inspired Research (INSPIRE)", Department of Science & Technology, Govt. of India. 4. Dr. Loveleen Brar, Scientist-C, Pushpa Gujral Science City	
13:00 - 14:00	LUNCH				Silver Oak Foyer	

13:00 - 14:00		LUNCH			
14:00 - 15:30		SPECIAL THEMATIC SESSIONS			
Session 13 SILVER OAK 1	Session 14 SILVER OAK 2	Session 15 JACARANDA 1	Session 16 JACARANDA 2	Session 17 MAGNOLIA	Session 18 MAPLE
WWF Theme: # 1 - Empowering Conservation Through Citizen Science: Engaging Communities for a Sustainable Future (60 mins) # 2- Impact Assessment for Environment Education Programmes (30 mins) Speakers: #1 1. Ms. Shonali Chenzira, Senior Manager, Environment Education 2. Ms. Ambreen, Lead, Youth and Citizen Engagement programmes, WWF-India #2 1. Ms. Neha Raghav, Director, WWF 2. Ms. Priyanka Singh, Manager, PMEL Education	UNEP Theme: Engaging youth through Education and Advocacy for Solutions to Plastic Pollution through UNEP's Tide Turners Plastic Initiative Speakers: I: Setting the Context 1. Mr. Sam Barratt, UNEP Chief Youth, Education and Advocacy Unit 2. Mr. Sumit Sharma, UNEP India II: Tide Turner Plastic Challenge (TTPC) India, its impact pedagogical approach - strength and weaknesses 1. Ms. Arpan Singh, Youth Officer UNEP India, (Moderator) 2. Ms. Ambreen Khan, Project Manager WWF 3. Mr. Utsav Modi, Project officer, CEE 4. Ms. Gayatri Raghwa, Environment Education expert UNEP-India 5. Dr. Raman, Prof., Shaheed Bhagat Singh College, Directorate of Edu., Delhi 6. Sneha Shastri, TTPC Ambassador, PhD student	South Pole Theme: Role of Sustainability Education in amplifying Nature based Solutions for Climate Action Speakers: 1. Moderator: Sheetal Antil, Sourcing Specialist, NbS, South Asia, South Pole 2. Mr. Arvind Boaz, IFS (Retd.), Former HoFF, Former D. G. SACEP / UNSASP Raipur, Chhattisgarh 3. Dr. Erach Bharucha, Director BVIEER, Pune 4. Ms. Archana Chatterjee, Project Manager, IUCN-India 5. Dr. Atoho Jakhalu, Director, Climate Studies and Knowledge Solution Centre, Nagaland 6. Mr. Abhijeet Sharan, Program Manager, South Pole	SWECHHA Theme: Intergenerational Dialogue on Re-imagining Education for a Climate Resilient Future Speakers: 1. Moderator: Dr. Shilpanjali Deshpande Sarma, Program Manager, Swechha: We For Change Foundation, Malviya Nagar 2. Ms. Khanak Gupta, Senior Secondary student, The Shriram Millennium School, Faridabad 3. Dr. Erach Bharucha, Director BVIEER, Pune 4. Ms. Archana Chatterjee, Project Manager, IUCN-India 5. Dr. Atoho Jakhalu, Director, Climate Studies and Knowledge Solution Centre, Nagaland 6. Mr. Abhijeet Sharan, Program Manager, South Pole 7. Ms. Susan Thomas, Educator & Consultant, Climate Reality Project, Delhi (online)	We Naturalists Theme: Learning and Awareness to Inspire Climate Action and Encourage Green Opportunities & Entrepreneurship Among Youth Speakers: 1. Mr. Amit Banka, Founder, WeNaturalists 2. Ms. Prerna Prasad, Founder and CEO of Ecoplore 3. Mr. Ajay Kumar, Co-Founder, Teach for Green	Oral Presentations Chair: Dr. Nakul Parashar, Ex. Director, Vigyan Prasar Dr. Ruchi Sachan, Professor, Miranda House Dr. Suprava Patnaik, Principal Advisor, Atal Bihari Vajpayee Institute of Good Governance and Policy Analysis

	<p>III: Solutions to beat the plastic pollution through green entrepreneurship & jobs</p> <p>1. Ms. Anita Shankar, ASTU Eco Pvt Ltd.</p> <p>2. Ms. Sonal Shukla, Eco Conscious</p> <p>3. Mr. Pranav Desai, Reco Solutions</p> <p>4. Ms. Neha Shivaji Naikwade, climate-oriented start-ups and climate-tech innovations</p> <p>5. Kaushik Chandreshekaran, UNEP Expert</p>			
15:30 - 16:00	TEA/COFFEE BREAK		Silver Oak Foyer	
16:00 - 17:30	<p>CONCLUDING PLENARY Presentation of Summary of Sessions & Adoption of Recommendations</p> <p>Chair: Mr Pradip Burman, Chairman Mobius Foundation</p> <p>Presentation of consolidated session reports/recommendations: Ms. Anupama Madhok, Director, Water Digest</p> <p>Panel:</p> <ul style="list-style-type: none"> • Dr. Nakul Parashar, Director, Vigyan Prasar • Mr. Alan Egbert, ACER, Dubai • Dr. Neelima Jerath, Director General, PGSC • Ms. Karuna Singh, Regional Director, Earth Day Network • Ms. Vinitaa Apte, Founder Director, TERRE Policy Centre 		Silver Oak	
17:30 - 18:30	<p>CLOSING CEREMONY</p> <p>Chief Guest: Mr. Sanjay Awasthi, Head, International Organization for Migration, India</p> <p>Chair: Mr. Pradip Burman, Chairman Mobius Foundation</p> <p>Announcement & Presentation of Best Paper/Poster Awards and Certificates</p> <p>Closing Statements:</p> <ul style="list-style-type: none"> • Mr. Praveen Garg, President, Mobius Foundation • Ms. Abimbola Junaid, Partnerships, Advocacy & Voice Manager, Population Matters • Ms. Bethany Davies, Research Fellow, ACER • Ms. Gayatri Raghwa, Environment Education expert UNEP-India • Mr Bhavesh Swami, Lead, Clean Energy Policy & Engagements, The Climate Reality Foundation <p>Vote of Thanks: Dr. Ram Boojh, CEO Mobius Foundation</p>		Silver Oak	
19:00 onwards	NETWORKING DINNER		Silver Oak Lawn	

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ABOUT MOBIUS FOUNDATION

Established in 2015, the Mobius Foundation is a non-profit organization dedicated to advancing environmental sustainability. With a primary goal of raising awareness about the environment and sustainability, the foundation has been at the forefront of numerous initiatives across India. Among its flagship projects is the annual *International Conference on Sustainability Education (ICSE)*, initiated in 2019, which brings together global leaders, educators, and policymakers to address sustainability issues through educational avenues.

The foundation's *Project Aakar* focuses on promoting population stabilization across eight districts in Uttar Pradesh, targeting approximately 7,500 villages. Additionally, the *Gyan Kanya Shakti: 100 School Program* strives to adopt and run girls' schools in rural Uttar Pradesh and Madhya Pradesh, aiming to empower underprivileged girls through the provision of quality education. Through its *Think Tank*, the organization engages in diverse programs and research areas such as renewables, agriculture, environment, forest and wildlife, and climate change, seeking to integrate "Environmentality" with sustainability in human actions.

Constantly in pursuit of opportunities, Mobius Foundation remains dynamic and proactive in contributing to the global effort in building a greener future.





Ensure inclusive and
equitable quality
education and promote
lifelong learning
opportunities for all



Take urgent action
to combat
climate change
and its impacts

Theme:

Educating for Climate Action & Sustainability

In partnership with



UN environment
programme

CEE
Centre for Environment Education

The Climate
Reality Project
INDIA & SOUTH ASIA



greenlitfest
Leveraging the future



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