Building Sustainable Campuses: Empowering Institutions for Environmental Leadership and Action

As microcosms of society, Campuses have the unique opportunity to model sustainability through resource efficiency, eco-friendly infrastructure, and community engagement. Thus, building sustainable campuses is a vital step toward aligning educational institutions with the global priorities of the Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 13 (Climate Action), and SDG 11 (Sustainable Cities and Communities). The Greening Education Partnership (GEP) emphasises embedding sustainability into learning environments, fostering eco-consciousness and skills among students.

Sustainable campuses serve as living laboratories, encouraging youth to lead initiatives, make informed decisions, and develop entrepreneurial solutions for environmental and social challenges. By integrating green practices, institutions nurture future leaders capable of driving meaningful change, contributing to a resilient, inclusive, and sustainable future.

The session focused on promoting environmental actions and sustainability within educational institutions. Its objectives aimed to address critical challenges through a collaborative, action-oriented approach. The session served as a roadmap for integrating sustainability into campus operations, curriculum, and community engagement to inspire meaningful change.

These objectives included identifying and analysing key environmental challenges faced by campuses; exploring actionable strategies for campus sustainability, with a focus on energy management, waste reduction, biodiversity enhancement, and water conservation; encouraging the active participation of students, faculty, and stakeholders like architects, policymakers, and local authorities in sustainability initiatives; and sharing successful case studies from institutions leading the way in sustainable campus operations.

Speakers

- Mr Balamurugan Ratha Krishnan, Green Growth Asia Foundation, Malaysia
- Dr Minu Agarwal, CEPT University, Ahmedabad
- Dr Atsufumi Yokoi, Okayama University, Japan
- Ms Shruti Nangia, Bharat Soka Gakkai, Delhi
- Dr Shamita Kumar, Bharati Vidyapith University, Pune
- Mr Aditya Pundir, The Climate Reality Project, Delhi

Presentations and Key Messages

Mr Aditya Pundir (The Climate Reality Project) underscored the transformative impact of green campuses, advocating for comprehensive strategies that encompass campus transformation, dedicated training for both teachers and students, and the widespread diffusion of knowledge within the community. He detailed how the Green Campus Program champions sustainability through various initiatives, including enhancing energy efficiency via solar panels, implementing water conservation methods like rainwater harvesting, actively monitoring air quality, and establishing robust waste management systems such as segregation and composting. Pundir highlighted innovative additions like kitchen and butterfly gardens, emphasizing that these initiatives, when coupled with regular audits and impact measurement, are crucial for long-term success. He also stressed the pivotal role of technology in driving sustainable practices and fostering collaboration across staff, students, parents, and the broader community.

Mr Balamurugan Ratha Krishnan (Green Growth Asia Foundation) highlighted the Eco-Schools Malaysia Programme, a three-year initiative aimed at embedding sustainability within school ecosystems by addressing real-world challenges. This programme incorporates inquiry-based learning, comprehensive teacher training, and active community involvement, with an ambitious goal of reaching 5,000 schools by 2030. He explained that the approach involves conducting a thorough needs analysis, providing structured training, and empowering both students and teachers to take the lead in implementing sustainability projects. Krishnan emphasised that robust data collection, the localisation of solutions, and the nurturing of youth leadership have led to measurable impacts, with teachers gaining professional recognition and participating schools driving significant environmental change.

Dr Atsufumi Yokoi (Okayama University) advocated for a whole-institution approach to Education for Sustainable Development (ESD) and the Sustainable Development Goals (SDGs), aligning efforts with SDG Target 4.7. He explained how Okayama University restructured its strategies to mobilize the SDGs, notably by emphasizing student engagement as key stakeholders. By adopting global frameworks like the Earth Charter and various UNESCO initiatives, the university integrated Global Citizenship Education (GCED) and ESD throughout its operations. He concluded by stressing the vital importance of innovation, adaptation, and collaboration in driving institutional transformation.

Dr Minu Agarwal (CEPT University) emphasised the critical role of carbon-conscious infrastructure in reducing emissions, detailing strategies including rainwater harvesting, energy-efficient designs, and waste reduction practices like recycling. She highlighted that behavioural shifts, regular appliance maintenance, and consistent energy audits are essential for achieving low-energy campuses. Dr

Agarwal further stressed the importance of tracking energy consumption, setting reminders, and investing in sustainable solutions to diminish environmental footprints, urging institutions to adopt design and operational choices that align with sustainability goals.

Dr Shamita Kumar (Bharati Vidyapeeth University) detailed how Bharati Vidyapeeth University integrates sustainability across its curricula, research, and community engagement efforts. She explained that the university maps its SDG impacts, conducts green audits, and fosters broad collaboration to drive sustainability both within and beyond its campus. While acknowledging challenges such as financial constraints and resistance from some college teachers, Dr Kumar noted that localised SDG initiatives and biodiversity action projects are instrumental in overcoming these hurdles. She emphasised the crucial importance of empowering students to develop solutions and engaging rural schools and communities to achieve a wider impact.

Ms Shruti Nangia (Bharat Soka Gakkai) focused on embedding sustainability into education to inspire sustainable human behaviour. She underscored the need for value-based education that integrates sustainability into subjects like science, math, and geography. She advocated for empowering students through initiatives such as SDG clubs, exhibitions, and competitions, supported by technological tools like e-newsletters. Ms Nangia emphasised the urgency of human behavioural transformation to achieve lasting sustainability goals.

Key Remarks from the Participants

- Current efforts in biodiversity conservation are commendable but often fragmented, leading to resource inefficiencies. A coordinated, multi-stakeholder approach is essential for achieving impactful results.
- Ground-level collaboration and community engagement are pivotal for biodiversity enhancement. Efforts like mangrove plantation, biodiversity parks, and sustainable livelihood initiatives can create a significant positive impact on both the environment and local communities.
- Sensitizing and empowering youth through education and innovative programs like gamified learning, conservation fellowships, and cultural tools (e.g., art and cartoons) can drive grassroots-level changes in biodiversity conservation.

Key Recommendations from the Session

1. **Institutional Integration**
    - Institutions should integrate sustainability principles across teaching, operations, and campus activities to align with SDG Target 4.7 and create cohesive strategies for environmental leadership.
    - Campuses should adopt energy-saving measures such as installing solar panels and energy-efficient appliances, monitor air quality, and implement water conservation techniques like rainwater harvesting.
    - Waste management practices like segregation, composting, and reducing waste should be emphasised alongside the creation of biodiversity-friendly spaces, such as kitchen, butterfly, and herbal gardens.
    - Regular green audits should be conducted to assess sustainability performance and track progress.
    - Institutions should invest in teacher training and capacity-building programmes to empower educators to lead sustainability initiatives effectively.

2. **Curriculum Integration**
   - Students should be encouraged to take leadership roles in sustainability efforts, fostering a sense of ownership and responsibility.
   - Environmental education should be integrated into the curriculum, using inquiry-based learning to address real-world sustainability challenges.
   - Interdisciplinary approaches should be developed to link sustainability concepts to subjects like science, math, and geography.
   - Educational institutions should use technology, such as digital tools, expert databases, reporting formats, and e-newsletters, to enhance sustainability education and monitor progress.
   - Interactive platforms, gamified learning tools, and data collection technologies should be employed to engage students and improve environmental literacy.

3. **Community Involvement**
   - Schools and universities should involve local communities in sustainability efforts, expanding the impact of environmental programmes beyond campus boundaries.
   - Collaboration with stakeholders, including governments, NGOs, and local organisations, should be prioritised to achieve broader sustainability goals.

4. **Value-Based Education**
   - Sustainability programmes should emphasise the importance of value-based education to inspire sustainable behaviours among students, staff, and communities.

5. **Action-Oriented Activities**
   - Activities such as competitions, exhibitions, and action-oriented projects should be designed to instill sustainable practices in everyday life.
   - Institutions should encourage research on sustainability challenges, such as reducing carbon emissions, improving energy efficiency, and minimising waste.
   - Students and educators should collaborate to develop innovative proposals and solutions for addressing real-world environmental issues.
   - Institutions should advocate for supportive policies that promote sustainability, such as green building codes and energy conservation mandates.

6. **Financial Support and Partnerships**
   - Financial support from partnerships and funding opportunities should be sought to overcome financial constraints and support long-term sustainability initiatives.

Outcomes and Announcements:

- Potential Opportunities:
  - Collaborative work with CEPT in Climate Resilient Structure research with the schools that we are connected with.
  - Introducing Sustainable Campus workshops for schools and teachers.
- No official announcements or MoUs were made during this session.

Challenges or Issues Discussed

- *Financial Constraints:* As Dr Kumar highlighted, many institutions face financial challenges when implementing sustainability measures. Budget restrictions can limit the scope of green campus initiatives, making it difficult to invest in energy-efficient infrastructure, renewable energy systems, or sustainability training programmes.
- *Resistance to Change:* Dr Kumar also noted resistance from faculty members, which is a common challenge in institutions adopting sustainability practices. This can arise due to a lack of awareness, fear of additional workload, or scepticism about the long-term impact of sustainability efforts.
- *Lack of Awareness and Knowledge:* Without proper understanding and skill development, even well-designed programmes like green audits or sustainability curricula may not yield effective results.
- *Behavioural Shifts:* Both Dr Agarwal and Ms Nangia emphasised the importance of shifting behaviours within the campus community. Despite implementing green infrastructure, such as energy-efficient designs or waste management systems, there is often a gap in how individuals use these resources. Encouraging sustainable behaviours and habits requires consistent awareness and engagement.
- *Local Context and Adaptation:* As noted by Mr Krishnan and Dr Yokoi, implementing sustainability initiatives must consider the local context. Each community and school may have different environmental challenges and resource availability, requiring tailored solutions. For instance, the effectiveness of a rainwater harvesting system in one region may be significantly different from that in another.
- *Measuring Impact and Sustainability:* The presenters recurringly emphasise the importance of tracking and measuring the success of sustainability initiatives. While audits and impact assessments can guide future actions, quantifying the long-term effects of certain measures, such as behaviour changes or community engagement efforts, can be challenging.
- *Collaboration Challenges:* Although all the speakers emphasised the importance of collaboration among staff, students, parents, and the broader community, effective collaboration can be challenging to achieve. It requires strong communication, shared goals, and often, overcoming different perspectives or conflicting priorities between stakeholders.
- *Incorporating Sustainability into Curricula:* Ms Nangia's focus on embedding sustainability across different subjects underlines the challenge of integrating sustainability into existing education systems. It requires rethinking curricula, teacher training, and creating an interdisciplinary approach that links sustainability to subjects like science, geography, and even the humanities.