



ASSAM
DON BOSCO
UNIVERSITY

2022-2023

Annual Sustainability Report



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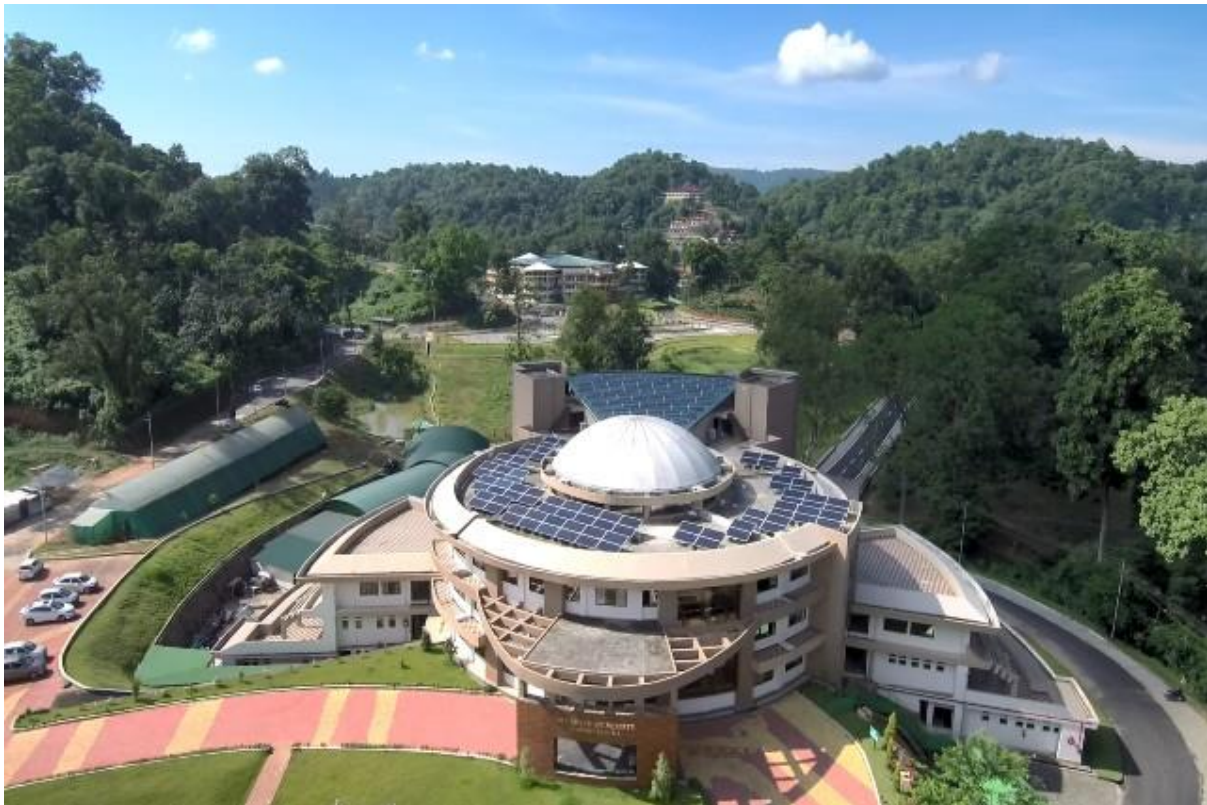
INTRODUCTION



The Sustainable Development Goals (SDGs) are a set of 17 global goals adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development. They aim to address pressing global challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice. The SDGs provide a comprehensive framework for countries and organizations to work towards a sustainable and equitable future. Each goal is interconnected, emphasizing the need for collective action across economic, social, and environmental dimensions. Education, innovation, and responsible resource management play a crucial role in achieving these goals. By promoting sustainable practices and inclusive development, the SDGs seek to improve the quality of life for present and future generations.

SUSTAINABILITY AGENDA OF THE UNIVERSITY

Assam Don Bosco University's sustainability agenda is deeply embedded in its vision, reflecting the University's commitment to all its stakeholders, including students, parents, faculty, staff, alumni, benefactors, and the governing body. This agenda serves as a roadmap for fostering a vibrant, self-sustaining campus community. The University aligns its three campuses with a holistic sustainability vision, setting clear goals in education, clean energy, nature conservation, and ecosystem management. Faculty and staff are encouraged to drive sustainability initiatives through cutting-edge research and technology to address regional challenges. With a strong foundation in values and dedicated faculty, the University nurtures an enriching learning environment. The listed activities showcase the University's ongoing progress in achieving the Sustainable Development Goals (SDGs). Furthermore, the Annual Sustainability Report highlights various activities, publications, and projects undertaken by the University to reinforce its commitment to achieving all SDGs.



ACTIVITIES



MAY 2022

HERBAL PRODUCT TECHNOLOGY SKILL COURSE

The Department of Life Sciences organized a Skill Development Course on Herbal Product Technology on 31st May 2022, under the guidance of Dr. Jayanti Datta Roy. A total of eight students participated in this hands-on course, creating herbal products such as herbal oil, soap, incense sticks, papad, herbal juice, and hair wash, with a focus on sustainability and the responsible use of local bioresources, particularly herbs from Manipur.

The course emphasized eco-friendly production techniques, equipping students with practical skills in herbal product development. It reinforced the University's commitment to environmental consciousness and promoted sustainable practices. The program successfully integrated theory and practice, encouraging students to explore innovative solutions in herbal-based product manufacturing.





JUNE 2022

MSC DISSERTATION RESEARCH ON ENVIRONMENTAL SUSTAINABILITY

On 1st June 2022, under the supervision of Dr. Jayanti Datta Roy, the Department of Life Sciences conducted three MSc dissertation research projects focusing on environmental sustainability. These studies explored tea-related fungal endophytes collected from the Tapesia Campus, assessing their potential for plant growth promotion, plant protection, and pollutant degradation. The research aimed to identify eco-friendly solutions for sustainable agriculture and environmental remediation. The fungal endophytes were evaluated for their ability to enhance plant health, protect against pathogens, and contribute to pollutant breakdown, aligning with the university's commitment to sustainability and scientific innovation.



JULY 2022

SWABALAMBAN-2022: EEE DEPT. TRAINS YOUTH IN ELECTRICAL WIRING

The Department of Electrical and Electronics Engineering at Assam Don Bosco University conducted a free skill development training program on Electrical House Wiring from July 11th to 16th, 2022, as part of the University's "Swabalamban" initiative. The program aimed to equip unemployed youth with skills for independent employment. The inauguration ceremony, held on July 11th, featured Fr. Joseph Nellanatt, Pro-VC of ADBU, Prof. Manoranjan Kalita, Director of the School of Technology, and Mr. Subodh Das, Director of SOS Children's Village.

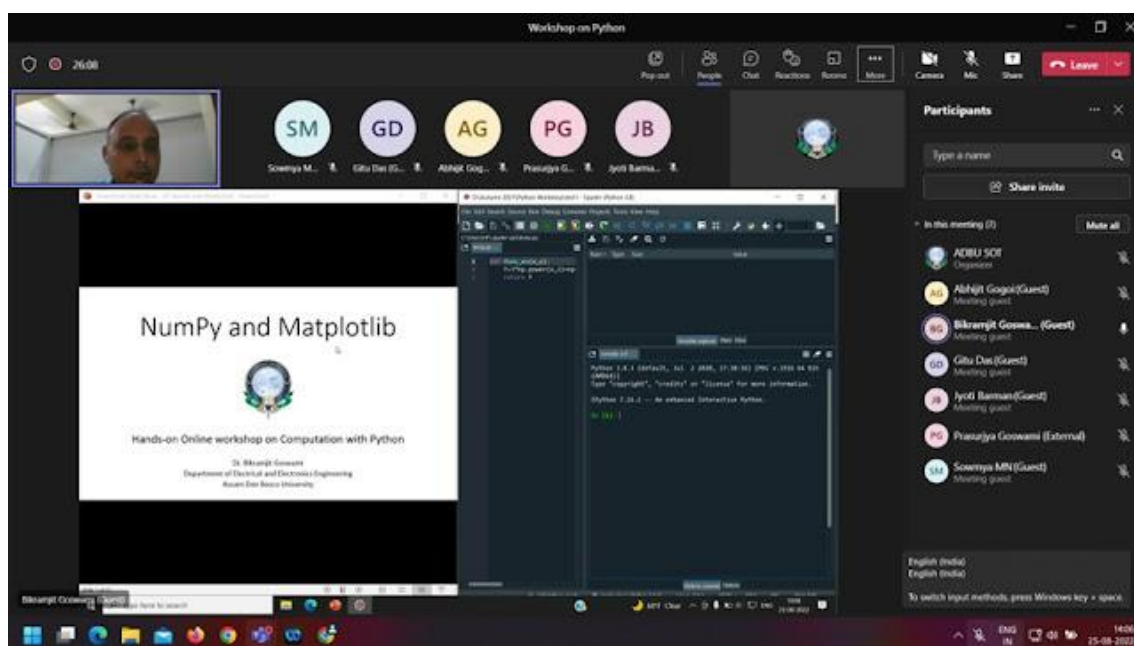
A total of 12 trainees, including 4 girls, received hands-on training in electrical connections, safety, installation testing, earthing, and insulation. On July 16th, all participants successfully passed a comprehensive test and were awarded certificates. The "Swabalamban" initiative, launched in 2014, aims to provide skill-enhancement programs to unemployed youths. It has trained participants in various fields, including electrical wiring, welding, carpentry, and more. The success of this program highlights the university's commitment to social responsibility and addressing the unemployment crisis in Assam. Through these initiatives, ADBU strives to create opportunities for self-employment and contribute to the region's growth.



AUGUST 2022

EEE DEPT. EMPOWERS PARTICIPANTS WITH AN ENGAGING HANDS-ON WORKSHOP ON COMPUTATION WITH PYTHON

The Department of Electrical and Electronics Engineering at Assam Don Bosco University organized an online workshop on Computation with Python from August 22 to 27, 2022. A total of 104 participants from India and abroad registered for the workshop, gaining essential Python skills for sustainable development. The workshop, led by Dr. Bikramjit Goswami and Dr. Jyoti Kumar Barman, focused on providing an overview of Python's computational possibilities through hands-on learning. Participants appreciated the engaging content and the balance between theory and practical applications. The event fostered a collaborative environment, enabling participants to explore Python's potential. This workshop highlights ADBU's commitment to quality education, technological advancement, and sustainable development.



SEPTEMBER 2022

VISIT TO DAFFODIL NURSERY FOR MICROPROPAGATION TRAINING

On 3rd September, the 3rd-semester Master's students of Biotechnology and Biochemistry visited Daffodil Nursery and Daffodil College of Horticulture for a field visit. They were



introduced to conventional micropropagation techniques such as grafting, cutting, and layering. Faculty members from the College explained these techniques, enhancing the students' practical understanding. The visit also included microbiology and analytical laboratories, providing exposure to laboratory techniques. Organized by Dr. Jayanti Datta Roy and Dr.

Supriyo Sen from the Department of Biosciences, the visit enriched students' knowledge of sustainable agricultural and biotechnological practices.



OCTOBER 2022

SEMINAR ON ENERGY TRANSITIONS CELEBRATING WORLD ENERGY DAY

The Department of Electrical and Electronics Engineering at Assam Don Bosco University organized a seminar on 'Energy Transitions' to celebrate World Energy Day on October 22, 2022. The seminar focused on transitioning from fossil fuels to low-carbon energy sources. Esteemed speakers, including Mr. Bhaskarjyoti Das, Mr. Masfick Hazarika, Dr. Papul Changmai, Dr. Hironmay Deb, and Dr. Sunil Deka, addressed 72 participants. Mr. Bhaskarjyoti Das discussed Assam's renewable energy progress, while Mr. Hazarika and Mr. Khalid explored energy access and transition in India. Dr. Deb provided insights into energy investment trends, and Dr. Changmai and Dr. Deka spoke on solar power and renewable energy resources. The seminar aligned with the goals of World Energy Day, promoting sustainable energy solutions.

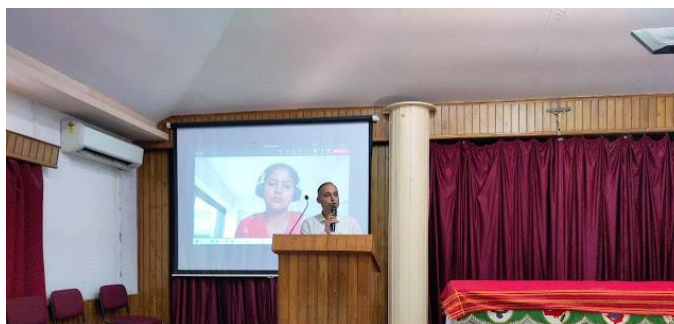




NOVEMBER 2022

ALUMNI TALK: AUTOMATIC GENERATION CONTROL IN POWER SYSTEMS

The Department of Electrical and Electronics Engineering at Assam Don Bosco University organized an alumni talk on "Automatic Generation Control of Power Systems" on November 5, 2022, focusing on Sustainable Development Goal (SDG) 7, which



promotes affordable and clean energy. Dr. Washima Tasnin, an alumna and Senior Assistant Professor at VIT, was the speaker, with 48 B.Tech and M.Tech students attending. She discussed the evolution of power systems, the role of Automatic Generation Control (AGC), and the integration of communication technologies for stability. Dr. Tasnin also highlighted ongoing research in AGC and the management of power systems during the PAN India lights-off event on April 5, 2020. The talk emphasized sustainable solutions in energy management, aligning with SDG targets for cleaner energy systems.



FEBRUARY 2023

CAMPUS BIRD COUNT 6.0

On February 17, 2023, the Department of Zoology, in collaboration with EcoClub, organized *Campus Bird Count 6.0* at Tapesia Campus as part of the Great Backyard Bird Count. Led by Dr. Nilutpal Mahanta (CIFOR-ICRAF) and bird researchers Ms. Taniya Talwar and Ms. Sakshi Pathak (Seven Waves), the event saw 60 students and three faculty members participate. A total of 35 bird species, including Slender-billed Oriole, Ashy Woodswallow, and Asian Fairy-bluebird, were recorded, contributing to the University's growing eBird checklist.



FEBRUARY 2023

INTERNATIONAL SEMINAR ON CLIMATE CHANGE: IMPACT AND RESILIENCE

The Department of Zoology, Assam Don Bosco University, in collaboration with the Zoological Society of Assam (ZSA), organized a two-day International Seminar on Climate Change: Impact and Resilience on February 27-28, 2023, as part of its five-year celebration. The seminar focused on assessing environmental conditions, fostering research discussions, and integrating climate change education into curricula.

Inaugurated by Vice Chancellor Rev. Fr. (Dr.) Stephen Mavely, the event featured esteemed speakers, including Prof. Probodh Borah, Prof. Jogen Chandra Kalita, and Dr. Jaideep Baruah. Ten keynote addresses, three special talks, and eight technical sessions (six offline, two online) were held, with 187 participants, 127 of whom presented research. Awards were given for Best Oral, Poster, and Online Presentations. Key recommendations included addressing climate change locally, documenting vulnerable species, preserving traditional practices, and identifying climate refugees. Sponsored by ASTEC, SBI, Oil India Ltd., ICSSR-NER, NRL, and others, the seminar successfully fostered climate action and sustainability discourse.





MARCH 2023

WORKSHOP ON FIREFLY CONSERVATION

The Department of Zoology, in collaboration with Don Bosco University, Assam, organized an Awareness Programme on 'Conservation of Fireflies' on March 14, 2023, in the College Auditorium. The event aimed to highlight the ecological significance of fireflies and the urgent need for their conservation.

The session began with a welcome address by Dr. Ronald KL Tron, Head of the Department, followed by an introduction from Dr. Jane Wanry Shangpliang and her research team from Don Bosco University. Ms. Emma Magdalene Nonglang delivered a presentation on "The Vanishing Fireflies: An Integrated Approach Towards Strengthening Firefly Conservation in Northeast India," educating participants on fireflies' role in ecosystems and conservation efforts.

An interactive competition followed, featuring Painting, Poster-making, Essay-writing, and Poetry-writing, all centered on the theme of fireflies. Winners were announced across various categories. The programme concluded with a vote of thanks by Ms. Eiweimanki Sumer, and was attended by 46 participants, fostering awareness and appreciation for firefly conservation.



MARCH 2023

VULTURE AWARENESS PROGRAMME

The Bombay Natural History Society (BNHS), in collaboration with the Department of Zoology, Assam Don Bosco University, organized an awareness program on vulture conservation on 18th March 2023. The session was led by Dr. Sachin Ranade, who highlighted efforts in establishing vulture-safe zones across India and monitoring vulture populations to prevent exposure to toxic livestock drugs. He emphasized Assam's significance, home to 7 out

of 9 vulture species in India, and discussed conservation efforts such as the "Colony Aviary" and the successful captive breeding of the Slender-billed Vulture.

Dr. Ranade also stressed the ecological importance of vultures and their role in preventing the spread of diseases like rabies. An engaging discussion and quiz followed the talk, where students actively participated, and winners received tokens of appreciation. The event concluded with remarks from Dr. Bakhtiar Hussain and a vote of thanks, reinforcing the university's commitment to wildlife conservation.



APRIL 2023

INTER-SCHOOL ELECTRICAL QUIZ SPARKS AWARENESS ON CLEAN ENERGY AND SDG 7.

The Department of Electrical and Electronics Engineering at Assam Don Bosco University, in collaboration with Living Thoughts Pvt. Ltd., organized the Inter School Electrical Quiz Competition (ISEQC-2023) on April 28-29, 2023, focused on "Clean Energy" to raise awareness of SDG 7: Affordable and Clean Energy. The event was held online with 18 teams from North East India, with 9 teams reaching the final round. The winners, Jyotimoy Baishya and Tanbir Talukdar from St. Claret School, Borjhar, secured the first prize of Rs. 6000, followed by Diptiman Bora and Pradhiman Bora from Sarala Birla Gyan Jyoti School, and Darshan Dipan Baruah and Pragyan Pratim Sharma from Kendriya Vidyalaya, Tezpur. Dr. Hironmay Deb and Mr. Jesif Ahmed, faculty members, organized and hosted the event. The competition highlighted the participants' knowledge on clean energy and contributed to the goal of sustainable development.



MAY 2023

INTERNATIONAL ASSOCIATION OF UNIVERSITIES (IAU) GLOBAL HIGHER EDUCATION AND RESEARCH FOR SUSTAINABLE DEVELOPMENT (HESD) CLUSTER MEETING.

The online meeting of the International Association of Universities (IAU) was held on April 18th and 19th, 2023, with 47 participant universities joining the discussions. The agenda focused on key aspects of higher education's role in promoting sustainable development, aligning with the United Nations' 2030 Agenda for Sustainable Development. The meeting addressed the gaps in higher education's contribution to sustainable transitions and the ways universities can fill these gaps. Topics included adopting interdisciplinary approaches to sustainability, fostering global and local partnerships, and integrating sustainability into teaching, research, and community engagement. Leadership contributions emphasized the need for structural transformation, student involvement, and prioritizing SDGs across academic

institutions. The meeting also highlighted the importance of collaboration and co-creating strategies to tackle global sustainability challenges. Assam Don Bosco University, as the cluster leader for SDG 7: Affordable and Clean Energy, played a significant role in advocating for clean energy solutions and supporting sustainable development goals.



JUNE 2023

EEE DEPT. HOSTS HOWS-PV'2023 WORKSHOP ON SOLAR ENERGY

INNOVATION

The Department of Electrical and Electronics Engineering at Assam Don Bosco University organized the "Hands-on Workshop on Solar Photovoltaic System (HoWS-PV'2023)" on June 1-2, 2023. The workshop, led by Dr. Papul Changmai, aimed to equip students with essential knowledge on solar energy and PV systems. With increasing energy



demands and environmental concerns, the workshop highlighted solar energy as a sustainable solution. Participants gained hands-on experience with solar panels and learned to analyse parameters like maximum power point (MPP) and irradiance. This workshop empowered students to contribute to India's renewable energy goals, particularly in solar power. The event underscored the growing importance of renewable energy in addressing global energy challenges. It concluded by emphasizing the need for future leaders to drive the transition toward a sustainable energy future.



JUNE 2023

WORLD ENVIRONMENT DAY CELEBRATED AT ADBU

The Environment Club of Assam Don Bosco University organized a program in collaboration with the NSS (National Service Scheme) club to celebrate World Environment Day on Monday, June 5th, 2023. A significant component of the celebration was a tree plantation drive. The plants were adopted from the World-Wide Fund for Nature (WWF) in Assam, India. A designated area within the campus was identified for planting saplings of tree species. Students, faculty members and staff actively participated in the tree planting activity, fostering a sense of responsibility towards the environment and understanding the importance of green cover.





JUNE 2023

SUSTAINABILITY WATER MANAGEMENT AT ASSAM DON BOSCO UNIVERSITY

Assam Don Bosco University employs outdoor water-saving strategies to optimize irrigation. The campus is divided into three water-use zones: high, moderate, and low, catering to varying irrigation needs. Xeriscaping principles are followed, with low water-demand plants like *Cupressus sempervirens*, *Berberis thunbergii*, and *Pinus nigra* planted alongside conifers. Additionally, bioswales with kerbs are integrated into the landscape for groundwater recharge, promoting efficient water use and sustainability. These strategies contribute to reducing water consumption while enhancing the campus's ecological footprint.



PUBLICATIONS

JOURNALS



- Wahlang, B., Sen, S., & Roy, J. D. (2022). Native endophytic bacterial isolates from *Camellia sinensis* var *assamica* plantation in Tapesia (Assam) reveal distinct plant growth promoting potential. *Indian J. Applied & Pure Bio.* Vol, 37(2), 438-448.



- Kumar, S., Sahu, H. S., Nayak, S. K., & Changmai, P. (2022, August). Parameter estimation of a DDM PV module using a simplistic novel method. In *2022 IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT)* (pp. 1-6). IEEE.



- Kalita, S., Awadhiya, B., & Changmai, P. (2023). Performance analysis of gallium nitride-based DH-HEMT with polarization-graded AlGaN back-barrier layer. *Applied Physics B*, 129(6), 98.

CONCLUSION & FUTURE GOALS

CONCLUSION

Assam Don Bosco University has made remarkable progress in advancing the UN Sustainable Development Goals (SDGs) through education, research, and community engagement in 2022-23. From promoting clean energy solutions and biodiversity conservation to fostering sustainable waste management and skill development, the University has strengthened its commitment to sustainability. These efforts have not only enhanced environmental awareness but have also empowered students and faculty to drive meaningful change. Moving forward, the University remains dedicated to continuous innovation and collaboration, ensuring a lasting impact on sustainability and a better future for all.

FUTURE GOALS

Moving forward, the University aims to:

- Expanding Renewable Energy Initiatives – Increasing solar energy adoption and exploring innovative clean energy solutions.
- Enhancing Research on Climate Resilience – Promoting interdisciplinary studies on climate change mitigation and adaptation.
- Strengthening Waste Management & Circular Economy Practices – Advancing recycling programs and organic waste utilization to minimize environmental impact.
- Promoting Biodiversity Conservation – Establishing more eco-friendly initiatives to protect and restore local ecosystems.
- Empowering Communities through Sustainability Education – Expanding skill development programs and awareness campaigns on environmental sustainability.
- Encouraging Green Infrastructure Development – Implementing eco-friendly building designs, water conservation systems, and smart campus solutions.