

# ANNUAL SDGs REPORT 2024

**GREEN UNIVERSITY OF BANGLADESH**  
SUSTAINABLE DEVELOPMENT GOALS



# KEY FACTS



**5 Acres**  
Campus Size



**16 Cr.**  
Financial Aid



**50+**  
Free Transportation



Sustainable  
**Buildings**



**3 Acres**  
Green Field



International Conference on  
**Innovation and Transformation**  
for Development



**SUSTAINABLE  
TECHNOLOGIES  
FOR INDUSTRY 5.0**



**CETL**  
Center for Excellence for  
Teaching and Learning



**WOMEN'S  
EMPOWERMENT  
FORUM**  
Green University

# PREFACE

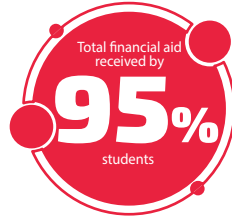
Green University of Bangladesh (GUB) continues its strong commitment in 2024 to advancing sustainability and contributing meaningfully to the United Nations Sustainable Development Goals (SDGs). As a leading institution of higher education, GUB integrates the principles of quality, innovation, and social responsibility into every aspect of its academic and community activities. This year, the university places special emphasis on SDG 1 (No Poverty), SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), SDG 10 (Reduced Inequalities), SDG 16 (Peace, Justice and Strong Institutions), and SDG 17 (Partnerships for the Goals). Through impactful programs, community outreach, and interdisciplinary research, GUB continues to foster solutions that address social, economic, and environmental challenges both locally and globally. Our initiatives extend beyond academic learning to include hands-on projects, innovation-driven research, and collaborative workshops and seminars that empower students and faculty to engage directly with sustainability challenges. By building strong partnerships with government agencies, international organizations, NGOs, and the private sector, GUB acts as a catalyst for knowledge exchange and transformative action. In 2024, the university reaffirms its vision of shaping a sustainable, inclusive, and peaceful future—one where education, equality, and innovation work hand in hand to create lasting impact for society and the planet.

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1 No  
POVERTY

END POVERTY EVERYWHERE



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-1: No Poverty.

## RESEARCH

### Microfinance Institutions in Developing Markets

This study examines the impact of stakeholder representation on the boards of Microfinance Institutions (MFIs) in relation to their dual mission of financial sustainability and social outreach. Analyzing data from a developing country, the research finds that independent directors positively impact both goals. The roles of employees, donors, and female board members are also significant but are influenced by the MFI's age and size. Notably, CEO duality supports sustainability but can hinder outreach. The findings, which align with stakeholder, stewardship, and resource dependence theories, recommend appointing an independent social director to enhance stakeholder involvement and help MFIs achieve their dual objectives.

### Digital Financial Inclusion and Remittances

This study investigates the impact of migrant remittances on digital financial inclusion in Bangladesh, using household survey data from . The findings reveal that remittances significantly increase the probability of households having e-bank accounts and using mobile banking for transactions. However, they do not significantly affect the use of ATM cards. The research concludes that remittance flows can be a powerful driver for digital financial inclusion by lowering barriers and costs, thereby creating investment funds and contributing to economic growth in Bangladesh. The findings offer valuable insights for policymakers in managing the crucial remittance sector.



## EVENTS

### Winter Clothing Distribution Program Titled 'Blankets Distribution'

On January 25, 2024, the Leo Club of Green University of Bangladesh organized on Campus winter clothing distribution program on campus. A total of 95 blankets were distributed among the university's support staff. The event was graced by the Acting Vice-Chancellor, Prof. Dr. Khawza Iftekhar Uddin Ahmed, as Chief Guest, and Distinguished Professor Prof. Dr. Md. Golam Samdani Fakir as Special Guest, along with other dignitaries who praised the noble initiative and encouraged its continuation.



### Relief Goods Distribution Among the Flood-Affected People

The Green University of Bangladesh organized a flood relief campaign to support families affected by severe flooding in Cumilla, Feni, Noakhali, Laxmipur, and surrounding areas. Relief goods were distributed to 920 families in Laxmipur District by teams of faculty, staff, and students between August 31 and September 1, 2024, using local transport to reach remote areas. The initiative showcased the university community's commitment to humanitarian service and support for those in need.



Bus-Stops



Canteen

Up to **75%** scholarship facility for the deserving international students from low-income countries

**56.67%** growth in offering financial aid to the students in 2024

Green University of Bangladesh grants

**45** buses and 6 minibuses travel in 20 routes within the Dhaka city every day.

**16 Cr.** BDT annually as scholarships, financial aid, and tuition waivers to support student access to higher education in 2024

**SERVICES**

**Transportation**

Green University offers free daily transportation for students, faculty, and staff, operating 50+ buses, 10+ micro-buses and 5 other vehicles on 20 routes. This initiative saves students on an average of BDT 100 per day in commute costs, with a daily subsidy of approximately BDT 550k.



Bus-Stops

**Accommodation**

Green University provides a secure and reliable hostel facility for student accommodation. It has 03 hostels, where 02 for boys and 01 for girls. Hostels are managed according to a specific modern accommodation policies and guidelines. Each hostel is furnished with modern facilities for the students. Managing residence outside the university campus costs approximately BDT 13k for each student. So, considering the financial status of most of the students, the university subsidizes the hostel fees by 42.30%.

**Canteen**

Green University has a well-designed university canteen that supports student health and well-being. The university authority monitors the canteen having a capacity of 1000 people. Where in the neighbouring area, standard lunch cost is minimum BDT 120-150 per person, Green University Canteen provides lunch for BDT 70-100. The students need to pay 55%-60% of the food cost and university subsidizes 40-45% of the food cost.



**Scholarship for International Students**

Green University of Bangladesh (GUB) provides scholarships and waivers for overseas students from low-income nations. The university offers 25% to 75% tuition fee waiver to the international students. GUB is committed to making quality education accessible to talented students worldwide and provides merit-based financial assistance.

**1045** students received financial aid out of **1045** students in 2024

**90.14%** growth in female student admission due to offering additional **5%** scholarship in 2024

Green University subsidizes

**55-60%** of the food cost

Daily subsidy of approximately

BDT **600,000** for transportations



GUB CAMPUS



GUB CAMPUS

**OTHER**

**Scholarship and Tuition Fee Waiver**

Green University provides a range of scholarships and tuition fee waivers for students, including merit-based scholarships, semester result-based scholarships, and special tuition fee waivers. In 2024, all 1,045 students benefited from scholarships or tuition waivers. Among them, 154 students received special category scholarships, including additional waivers for female students. Overall, GUB disbursed USD 1.52 million in financial support, reflecting a 60.2% growth from the previous year and ensuring 100% attainment of its student-aid target.



**Recreational Activities and Psychological Counseling Center**

Green University of Bangladesh offers extensive recreational facilities, including international-standard football and cricket grounds that host national tournaments and interdepartmental events. Indoor games in student common rooms support both physical and mental development. The university also provides an integrated psychosocial counseling and medical center, offering mental health support to manage stress, build resilience, and promote well-being particularly for students from low-income backgrounds.

**Career Counseling Service**

The Center for Career Development (CCD) at Green University provides career counseling, workshops, training, internships, and job placement opportunities. It prioritizes students from low-income families and conducts regular counseling sessions for them. The CCD arranged regular career-readiness sessions, through which 470 students received individual guidance and internship placements. Additionally, all students must complete a Professional Life Skill Development (PLSD) course included in the undergraduate curriculum to enhance employability and career readiness.

**Contributory Welfare fund and Ashar Alo Scholarship**

Green University of Bangladesh supports low-income students through financial and career programs. A 2022–2027 agreement with Bank Asia provides low-interest education loans, while CCD and CETL offer internships. In 2024, 8 students received Research and Teaching Assistantships (BDT 12,000–15,000 monthly), 44 students received SCWF aid (BDT 291,250), and 12 students earned Ashar Alo Foundation scholarships (BDT 360,000).

2 ZERO  
HUNGER

END HUNGER, ACHIEVE  
FOOD SECURITY



EVENTS



PUBLICATIONS

The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-2: Zero Hunger.

## RESEARCH

### Machine Integrated Intelligent Irrigation System For Agriculture Industry

Facing a growing global freshwater scarcity, this article proposes an IoT-based intelligent irrigation system for the agricultural sector. Using soil and humidity sensors, data is collected and stored in the cloud. The system employs a K-means clustering algorithm and a hybrid K-means SVM classifier to analyze the data, predict water demand, and automate irrigation. This model achieved a high accuracy rate of **98.5%**, outperforming Random Forest and Naïve Bayes classifiers, and demonstrates significant potential for saving freshwater through efficient, data-driven water management.

### An AI-Enabled Integrated Pest Detection System for Enhancing Cabbage Cultivation

To combat the threat of destructive pests to global cabbage crops, this research proposes a machine learning-based solution using the YOLOv5 model. Trained and validated on a custom dataset of four insect classes, the system enables real-time, accurate identification of harmful pests like aphids and diamondback moths. This approach offers a sustainable alternative to conventional, environmentally hazardous pest control methods, supporting improved crop management and productivity.

## EVENTS

### Nutriseeds Distribution for Zero Hunger

On December 26, 2024, the Department of Sociology at Green University organized a "Nutriseeds Distribution for Zero Hunger" program at Charpara Bidyaniketan School. Aligned with the UN's Sustainable Development Goals, the initiative involved distributing various vegetable saplings to students. The event was attended by the Head of the Department, Professor Dr. Abul Hossain, other faculty members, and the school's principal and teachers.



### Free Health Campaign 2024 at Rupshi New Model School and College

On December 19, 2024, the Green University Blood Club and Medical Center, in collaboration with the Office of Student Affairs, organized a Free Health Campaign at Rupshi New Model School and College in Narayangonj. The event, led by Dr. Rajib Sutradhar, provided free blood grouping, diabetes tests, and basic health awareness to over 150 participants. This initiative successfully demonstrated GUB's commitment to community service and philanthropic outreach.

3 GOOD HEALTH  
AND WELL-BEINGENSURE HEALTH AND  
WELL-BEING FOR ALL

The following are some highlighted research papers that are published by the faculty members of GUB on SDG-3: Good Health and Well-being.

## RESEARCH

### Mathematical Analysis And Prediction of Future Outbreak of Dengue

This study develops a novel mathematical model to analyze the dynamics of Dengue fever, specifically focusing on the 2023 outbreak in Bangladesh. The model successfully replicates the observed seasonal pattern, predicting peak infections from mid-May to late October. Furthermore, by employing a Machine Learning approach, the research forecasts a concerning 25% increase in Dengue cases for 2024 compared to the previous year, highlighting the urgent need for proactive public health interventions.

### Automated Radiomics Based Clinically Significant Prostate Cancer (csPCa)

This research proposes a fully automated framework for classifying clinically significant prostate cancer (csPCa) using bi-parametric MRI (bp-MRI) to overcome the limitations of traditional multi-parametric methods. The system segments lesions and analyzes radiomics features, with the XGBoost classifier achieving a 96% accuracy in distinguishing between significant and non-significant cancer grades. This approach offers a highly accurate, efficient, and safer diagnostic alternative by eliminating the need for contrast agents.

## EVENTS

### Green University Inter-College Football Fest 2024

Green University of Bangladesh, in collaboration with the Diversity and organized by the Green University Sports Club, hosted the Inter-College Football Fest 2024 from May 21–27 at its football ground. Featuring 50 college teams, the event promoted youth engagement, teamwork, and healthy living, with strong logistical and safety measures ensuring a successful and well-managed tournament.

### Webinar on “Combat with Your Stress”

On December 6, 2024, the Department of Computer Science and Engineering (CSE) at Green University of Bangladesh organized a webinar titled “Combat with Your Stress” to promote students’ psychological well-being and stress management, supporting Good Health and Well-being. Conducted by Ms. Sanjida Afroz, Clinical Counselor at BUET, and chaired by Dr. Muhammad Aminur Rahaman, Chairperson of CSE, the session provided over 100 students with practical strategies for managing anxiety, improving focus, and maintaining academic-life balance. Participants also learned relaxation and mindfulness techniques and were encouraged to seek further support from the Green Psychosocial Counseling Unit (GPSCU), fostering mental health awareness and resilience within the university community.

# 4 QUALITY EDUCATION



PROVIDE INCLUSIVE, QUALITY EDUCATION



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-4: Quality Education.

## RESEARCH

### Students' Satisfaction with Virtual Interaction Mediated Online Learning

This study employs a mixed-methods approach to assess student satisfaction with virtual interaction-mediated online learning in Bangladesh. The findings indicate that students hold ambivalent feelings, with key contributors to satisfaction including flipped classrooms, teacher-student interaction, timely feedback, and reliable infrastructural support. The research provides valuable insights for enhancing online education in Bangladesh and similar South Asian contexts.

### Towards a Sustainable Academic Campus in Bangladesh

This study evaluates a 60-kW on-grid solar PV system for a Bangladeshi university, demonstrating its technical and economic viability. The system is projected to generate significant annual energy savings, achieve a favorable payback period, and reduce carbon emissions. By efficiently using rooftop space, the research provides a practical model for other educational institutions in Bangladesh to adopt renewable energy, supporting national sustainable development goals.



GUB CAMPUS

## EVENTS

### Inter Department Programming Contest (IDPC) Spring 2024

On February 15, 2024, the Green University Computer Club (GUCC) successfully hosted the "Inter Department Programming Contest (IDPC) Spring 2024." The event featured 121 competing teams and concluded with a prize-giving ceremony attended by senior university officials. Team "Adu\_Vai" was declared the champion, with "ObjectPool" and "Flight No. MH370" as the first and second runners-up, respectively. Special awards were also given to the "Best Emerging Young Team" and "Best Female Team."



### GUB CSE Carnival 2024

From October 2 to 4, 2024, the Department of Computer Science and Engineering at Green University of Bangladesh organized the GUB CSE Carnival 2024 with support from various student clubs and organizations. The event featured a festive rally, inauguration ceremony, Idea Showcasing, Talent Hunt, Programming Contest, Gaming Battle, Tech Debate, and Seminars on technological careers. It concluded with an award ceremony, cultural performances, and a live show by Arbovirus, creating a vibrant experience for students and faculty.

**Introduction to kaggle :  
A Beginner's Guide for Aspiring  
Data Science &  
Machine Learning  
Enthusiasts**

15th Nov 2024  
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Organized By: IEEE GUB STUDENT BRANCH, IEEE COMPUTER SOCIETY GUB STUDENT BRANCH CHAPTER  
In-Association With: IEEE COMPUTER SOCIETY Bangladesh Chapter

**Keynote Speaker**  
Mr. Mir Tahmid Hossain  
2X Kaggle Grand Master  
Senior Data Scientist, Saleha Metal Industries  
Machine Learning Engineer, Omdena (USA)

**Chief Guest**  
Prof. Dr. Md. Ahsan Habib (Tareq), SMIEEE  
Dept. of CSE  
Green University of Bangladesh  
Chair, IEEE CS Bangladesh Chapter

**Session Chair**  
Dr. Muhammad Amirur Rahman, SMIEEE  
Associate Professor & Chairperson  
Dept. of CSE  
Green University of Bangladesh

## TEACHING AND LEARNING

### Teaching for Active Learning (TAL)



The Certificate Giving Ceremony of Teaching for Active Learning (TAL-14) took place on November 30, 2024, at BRAC University, concluding a three-day workshop that championed innovative and learner-centered pedagogy. Participants from 10 leading universities were awarded certificates, celebrating their dedication to enhancing teaching quality and engagement. The event fostered collaboration, reflection, and professional growth—highlighting a shared commitment to advancing excellence in higher education through active and transformative teaching practices. fLTR and CETL have jointly hosted this program



## OTHER

### Introduction to Kaggle: A Beginner's Guide for Aspiring Data Science and Machine Learning Enthusiasts

On 15 November 2024, the IEEE Student Branch and IEEE Computer Society Student Branch Chapter GUB collaboratively organised an insightful workshop on Kaggle, featuring Mir Tahmid Hossain, 2X Kaggle Grandmaster, Senior Data Scientist at Saleha Metal Industries Limited and ML Engineer at Omdena (Free-lance), USA as the keynote speaker. The session aimed to introduce students to Kaggle, a premier online platform for data science and machine learning enthusiasts.

**GO  
ABSTRACT  
CONTEST 2024**

**REGISTRATION DEADLINE: 18TH MAR**

Original and unpublished  
Research Abstracts in English.  
Up to 500 word count.  
Individual/Group Submission  
Registration fee: BDT 210

• FB.COM/CETL.GREEN • CETL@GREEN.EDU.BD

### Go Abstract Contest

The Go Abstract Contest 2024, organized by the Center of Excellence for Teaching and Learning (CETL) at Green University of Bangladesh, invites students to showcase their academic creativity and research potential. Focusing on themes such as technological advancements, inclusive education, pedagogy, entrepreneurship, and AI in education, the contest encourages original, evidence-based submissions reflecting emerging ideas and transformative perspectives in higher education.

5 GENDER EQUALITY



EQUALITY FOR ALL GENDERS, PROGRESS FOR ALL



The following are some highlighted research papers that are published by the faculty members of GUB on SDG-5: Gender Equality.

RESEARCH

Gender Representation and Its Impact on the Quality of Education

This study analyzes gender representation in the Grade Six "English for Today" textbook in Bangladesh, comparing the 2022 and 2024 editions. While the earlier version showed a gender imbalance, the current edition demonstrates positive change. The findings emphasize the importance of gender-sensitive educational materials for promoting inclusivity and improving education quality, offering recommendations for future textbook revisions.

Governance And the Double-Bottom-Line Performance of Microfinance Institutions

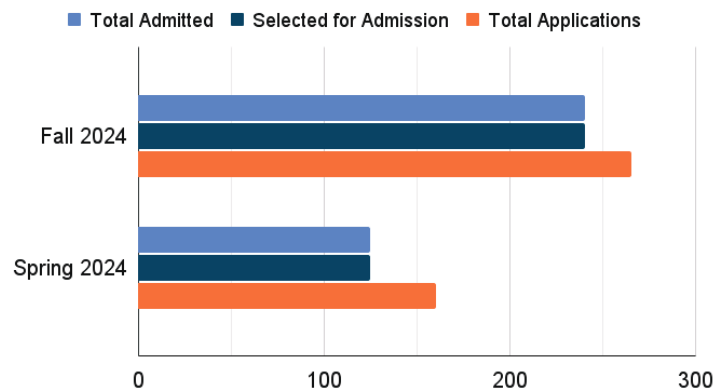
This study examines the impact of governance on the dual mission of Microfinance Institutions (MFIs) in Bangladesh. A key finding reveals a complex role for female representation. While the mere presence of women on the board has an inverse association with the breadth of outreach (outreach), the activities of female managers in top-level positions significantly and positively impact the depth of outreach, demonstrating their crucial role in serving poorer clients. The study recommends distinctive governance structures for hybrid organizations like MFIs to better achieve their social goals.

EVENTS

Successful Completion of the International Women's Day

On 8 March 2024, Green University of Bangladesh celebrated International Women's Day with great enthusiasm under the theme "Invest in Women: Accelerate Progress." The event began with a vibrant rally where female faculty, students, and staff in purple and pink attire were joined by their male colleagues, marching from the Shahid Minar to the admin office while honoring women's global achievements and resilience. The program featured speeches from the Acting Vice-Chancellor, senior professors, deans, and department chairs, followed by a cake-cutting ceremony and a symbolic signing on a dedicated signature wall.

Number of female applications, selected female candidates and enrolled female students



Green University of Bangladesh offers

5%

additional tuition waiver to the female students

31 Female students were

46,991

USD provided additional waiver in 2024



## SERVICES

### Separate Male and Female Hostel Facilities within Walking Distance

Green University of Bangladesh (GUB) is committed to promoting gender equality and student well-being through the establishment of separate hostel facilities for male and female students within walking distance of the campus. The female hostel is designed to provide safe, comfortable, and affordable accommodation equipped with essential amenities, including furnished rooms, study furniture, internet access, and security measures.



### Sexual Harassment Complaint and Suggestion Boxes Installed on Campus

To promote transparency and ensure accessibility, Green University of Bangladesh has placed Sexual Harassment Complaint and Suggestion Boxes at various locations on campus. These boxes allow students, faculty, and staff to submit complaints or provide feedback regarding campus safety and well-being. This initiative strengthens the university's ongoing efforts to maintain a secure, inclusive, and supportive academic environment.

### Sanitary Pad Vending Machines

Green University of Bangladesh has installed sanitary pad vending machines in the Female Common Room to promote menstrual hygiene and ensure convenience for female students and staff. This initiative reflects the university's commitment to supporting women's health and well-being by providing easy and discreet access to essential sanitary products on campus.



### Female Common Room at GUB

The Female Common Room at Green University of Bangladesh offers a comfortable and private space where female students can relax, study, and interact with peers. Designed to foster a supportive environment, the room is equipped with essential facilities that cater to the needs of female students, encouraging inclusivity and a sense of belonging within the university community.



6 CLEAN WATER  
AND SANITATION

ENSURE WATER AND SANI-  
TATION FOR ALL



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-6: Clean Water and Sanitation.

## RESEARCH

### Solar-Powered UWSV to Maintain Lake Water pH

This research designs a cost-effective, solar-powered Unmanned Water-Surface Vehicle (UWSV) to help maintain ecological balance in lakes. The prototype is designed to remove surface pollutants, monitor water pH, spray pesticides, mix cleansing chemicals, and even feed fish. By performing these tasks, the UWSV aims to ensure a safe and clean aquatic environment, supporting sustainable fish farming and combating the threats of water pollution and climate change.

### Assessment and Hydro Chemical Classification of Groundwater Quality in the Western Delta Region.

A study of groundwater in the Godavari Western Delta reveals significant quality issues, with conditions worsening during the summer. Analysis showed that 90% of the samples were classified as brackish water based on Total Dissolved Solids (TDS), and over 40% were categorized as saline based on Electrical Conductivity (EC). Furthermore, the majority of the water samples were found to be hard or very hard. These results indicate that the groundwater in the region is largely unsuitable for drinking and poses a challenge for agricultural use, highlighting a critical water security issue driven by over-reliance on a declining resource.

## FACILITIES

### Hygienic and Comfortable Campus

Green University of Bangladesh (GUB) is deeply committed to creating a clean, comfortable, and safe campus environment that reflects our dedication to the well-being of students, faculty members, and staff. Recognizing the importance of health and hydration, we have installed water purifiers in each building to ensure access to pure, filtered drinking water for everyone on campus.



Beyond safe drinking water, we prioritize privacy and comfort in our facilities by providing separate, well-maintained washrooms for male and female students. Each washroom is regularly serviced to uphold high standards of hygiene, ensuring a clean and accessible environment for all. Our commitment to these facilities is part of a broader mission to foster a supportive, healthy, and inclusive campus. At GUB, we strive to maintain and improve these amenities as essential to student welfare, convenience, and academic success.

7 AFFORDABLE AND  
CLEAN ENERGY

ENSURE AFFORDABLE,  
CLEAN ENERGY



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-7: Affordable and Clean Energy.

## RESEARCH

### Optimizing Hybrid Renewable Energy based Automated Railway Level Crossing in Bangladesh

This study proposes an optimal, hybrid renewable energy system to power automated railway level crossings in Bangladesh. By evaluating a photovoltaic and wind turbine configuration across five locations, the research demonstrates the system's technical and economic viability, showing a low energy cost, a favorable return on investment, and a significant reduction in greenhouse gas emissions compared to traditional grid power.

### Exploring Lithium-Ion Battery Degradation

This comprehensive review investigates the complex challenge of battery degradation in sustainable energy storage and electric vehicles. It examines key degradation factors like temperature, cycling patterns, and aging, and their impacts on performance and longevity. The paper also explores data-driven estimation methods and concludes by offering recommendations and future directions to mitigate these issues, thereby supporting the development of more resilient and sustainable energy systems.



## EVENTS

### Seminar on Potential Career Path in Solar PV Energy Technologies

On 3 October 2024, the GUB EEE Club, in collaboration with GCiA and IEEE PES, organized a seminar on "Potential Career Paths in Solar PV Energy Technologies." The event featured a keynote session by Prof. Dr. Nowshad Amin, who provided valuable insights into career and research opportunities in the solar energy sector. The seminar was attended by senior faculty members, including the Dean of the Faculty of Science and Engineering and the Pro-Vice Chancellor, and concluded with an interactive Q&A session, successfully inspiring attendees about the future of renewable energy.



### Outreach Program on Solar Panel Installation for local Communities

On December 19, 2024, a hands-on training program on solar panel installation for rural areas was successfully conducted at Rupshi New Model School & College, Narayanganj. The program equipped participants with practical skills in off-grid solar solutions and cost analysis. The event, which included an engaging quiz competition, saw active participation from students and community members, fostering knowledge on renewable energy and carbon emission reduction.



GUB CAMPUS



**SERVICES**

**Industry Collaboration for Energy Efficiency**

Green University of Bangladesh (GUB) has provided specialized consultancy services to Reverie Power & Automation Engineering Ltd., Dhaka, to enhance technical capabilities and promote clean energy practices. Led by Prof. Dr. Md. Fayzur Rahman and Assistant Prof. Shahriar Mahmud Kabir, the GUB team offered expert guidance to improve operational efficiency, innovation, and research-based decision-making. Reverie Power & Automation acknowledged GUB's professionalism and valuable contribution, expressing interest in future collaborations. This partnership highlights GUB's active role in strengthening industry-academia cooperation for advancing Bangladesh's power and automation sector sustainably.



**Internship on Solar Energy and Sustainable Power**

Students from the Department of EEE at Green University of Bangladesh completed an internship at the Manikganj 35 MW Spectra Solar Power Plant, gaining practical experience in solar energy production and grid integration. The program enhanced their understanding of renewable technologies and Bangladesh's clean energy transition Affordable and Clean Energy and preparing future leaders in sustainable power systems.

**Assistance to Local Startup Beyond the University**

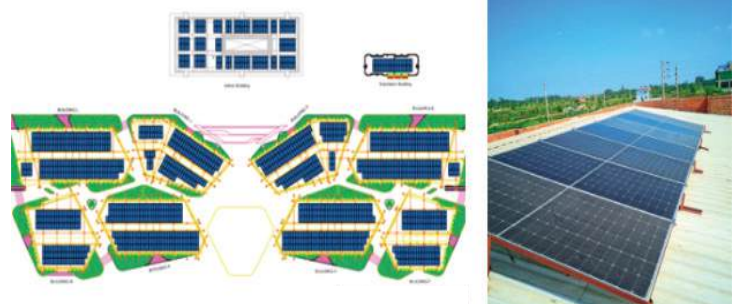
Green University of Bangladesh (GUB) supports local startups promoting sustainable and low-carbon technologies. GUB has provided financial aid, solar panels, and electrical equipment to a startup near its Kanchan campus in Rupganj, enabling small businesses to operate using clean solar energy. This initiative reduces carbon emissions, fosters renewable energy adoption, and reflects GUB's commitment to Affordable and Clean Energy, empowering local entrepreneurs toward a greener future.



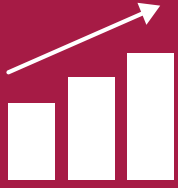
**Renewable Energy Integration in the University**

The Green University of Bangladesh (GUB) is enhancing energy efficiency through renewable energy adoption and real-time monitoring of solar power generation and consumption. To further strengthen its sustainability efforts, GUB plans to install a 705-kW solar power system, reducing reliance on conventional energy and advancing its goal of a clean, energy-efficient campus.

Conceptual Solar Rooftop Design for Green University of Bangladesh



# 8 DECENT WORK AND ECONOMIC GROWTH



PROMOTE INCLUSIVE ECONOMIC GROWTH AND DECENT WORK



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-8: Decent Work and Economic Growth.

## RESEARCH

### Optimization of Hybrid Biogas-Solar Energy Systems

This study demonstrates the feasibility of hybrid biogas-PV systems for sustainable power generation in Rosso, Mauritania. By optimizing both on-grid and off-grid configurations, the research identifies a cost-effective on-grid system with a low levelized energy cost. The off-grid system, while slightly more expensive, offers significant emission reductions. The findings underscore the potential of such hybrid systems to provide reliable, renewable energy, contributing to sustainable development in Mauritania and similar regions.

### Nexus Between Demographic Dividend and Economic Growth

This systematic review and bibliometric analysis examines the debated link between demographic dividend and economic growth. By analyzing 24 relevant publications, it identifies five key thematic clusters, broadly categorized as accounting, behavioral, and human capital effects. The findings aim to assist governments and policymakers in making informed long-term decisions to harness the demographic dividend for economic growth.



## EVENTS

### Hult Battle 04

On 23 February 2024, The Hult Prize competition at Green University of Bangladesh was successfully concluded, celebrating innovation and social entrepreneurship. The event was graced by the Pro-Vice-Chancellor, Registrar, and other faculty members. Team Luminaries was declared the winner for their impactful idea, with the success of the event attributed to the participants and the insights from the panel of judges.



### Entrepreneurship Idea Fest

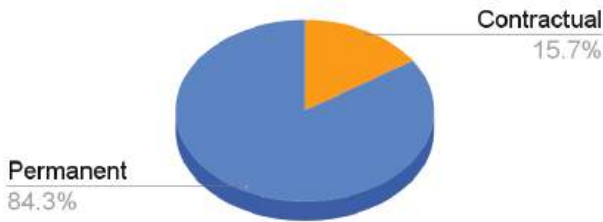
On January 2, 2024, students of the Green Business School successfully organized an "Entrepreneurship Idea Fest" via Zoom as part of their BUS-301 course. Under the guidance of the Dean and a panel of judges, 14 teams initially pitched their ideas, from which five were selected to present their refined concepts. The event successfully inspired students to pursue entrepreneurial careers.





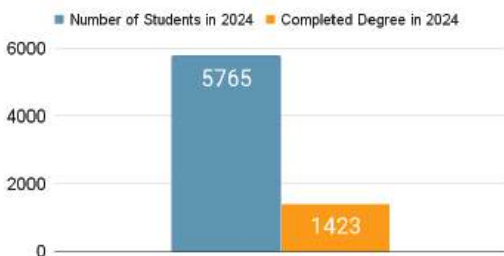
**OTHER**

**Distribution of Permanent and Contractual Employees at Green University of Bangladesh**



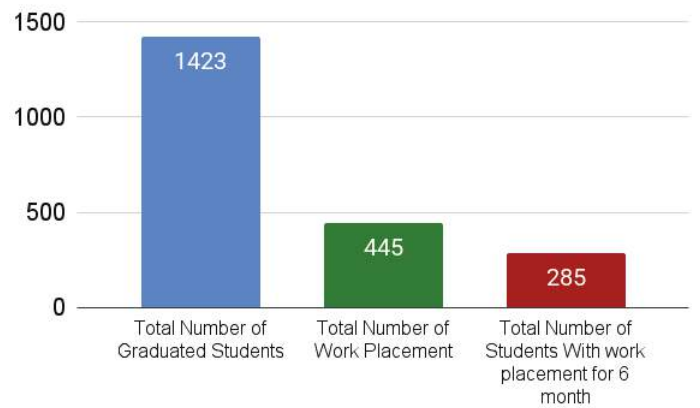
The above pie chart represents the employment structure of Green University of Bangladesh. It shows that 84.3% of the employees are permanent, while 15.7% are contractual. This data indicates that the university predominantly relies on permanent staff, reflecting its emphasis on maintaining a stable, experienced, and long-term workforce to ensure institutional consistency and quality in academic and administrative operations.

**Number of Students and Students Who Completed Their Degrees in 2024 at Green University of Bangladesh**



The bar chart presents a comparison between the total number of students enrolled and those who completed their degrees at Green University of Bangladesh in 2024. The data indicates that the university had a total of 5,765 students during the year, out of which 1,423 students successfully completed their academic programs. This demonstrates a steady graduation rate, reflecting the university's commitment to academic excellence and student achievement.

**Number of Students with Work Placements**



The chart above presents data on student work placements among graduates. A total of 1,423 students successfully graduated during the reporting period. Out of these, 445 students secured work placements, representing approximately 31% of the total graduates. Moreover, 285 students maintained work placements for a duration exceeding six months, indicating a strong level of sustained employment or internship engagement. This analysis highlights the effectiveness of the institution's career development initiatives and suggests that a significant proportion of graduates are successfully transitioning into the workforce, with many achieving long-term placement opportunities.



9 | INDUSTRY, INNOVATION AND INFRASTRUCTURE



BUILD RESILIENT INFRASTRUCTURE AND FOSTER INNOVATION



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-9: Industry, Innovation and Infrastructure.

RESEARCH

**Potential Data for Feasibility Assessment and Deployment of a 6.7 MW Floating Solar PV Plant in Hatirjheel Lake, Dhaka, Bangladesh**

This study conducts a feasibility analysis for a 6.7 MW floating solar power plant on Hatirjheel Lake in Dhaka, Bangladesh. By evaluating local climatic data and grid energy demands, the research uses PVsyst software to design the plant and calculate its energy output, leveled cost of energy, and payback period. The findings confirm the research's technical and economic viability, providing a valuable dataset for planning similar solar installations throughout the Dhaka metropolitan area.

**A Raspberry Pi Driven Autonomous Humanoid Robot for Advanced Applications**

This paper presents the development of "Elina," a humanoid robot designed to collaborate with humans by performing tasks such as communication, object manipulation, and responding to commands. The research aims to deepen the understanding of humanoid robotics and assess performance in various scenarios, with experimental results demonstrating Elina's significant potential as an effective human companion.



EVENTS

**Industrial Visit at Russel Washing Plant (Dyeing Unit) - A Sister Concern of Osman Group, Hajigonj, Narayanganj**

On 21 December 2024, the Center for Career Development (CCD) at Green University of Bangladesh has signed a Memorandum of Understanding (MoU) with Assurer Group. This partnership is designed to enhance industry-academia engagement by facilitating student internships, exchange programs, and joint workshops and seminars. The collaboration aims to provide students and faculty with valuable practical learning and career development opportunities.



**Court Visit of Students (Law Dept.)**

On 24 November 2024, the Department of Law organized a court visit for 73 students to the Dhaka Judge Court. Supervised by faculty members, the visit provided practical exposure to criminal court proceedings. The students, divided into groups, observed various courtrooms and were subsequently assigned academic tasks based on their experience.

10 REDUCED INEQUALITIES



REDUCE INEQUALITIES GLOBALLY



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-10: reduced inequalities.

RESEARCH

**Impact of Stakeholders as Board Members on Sustainability and Social Outreach of Microfinance Institutions in Developing Market**

This study investigates how stakeholder representation on the board of Microfinance Institutions (MFIs) in a developing country impacts their dual mission of sustainability and social outreach. The findings indicate that independent directors significantly enhance both objectives, while the influence of employees, donors, and female members varies with the MFI's age and size. The study recommends appointing an independent social director to better incorporate stakeholder interests, thereby supporting the institution's financial and social goals.

**Establishing a Base for Sustainable Development for the Poor**

This research examines the critical role of governance in enhancing the performance and sustainability of Microfinance Institutions (MFIs) within a frontier market economy. It finds that an MFI's profitability has a non-linear relationship with its poverty alleviation services; a strong focus on high profits often leads to a reduction in outreach to the poor. To resolve this tension between social welfare and commercial objectives, the study recommends developing specialized governance guidelines and institutional structures that prioritize social mission. A key proposal is for MFI boards to appoint a social director, who would act as a representative for clients' interests and ensure the institution's commitment to its original social goals.

EVENTS

**Raising Awareness Against Discrimination**

The Institutional Quality Assurance Cell (IQAC) of Green University of Bangladesh organized a seminar titled "Reduced Inequalities: Raising Awareness against Discrimination." The event featured Ms. Afsana Binte Amin from NETZ Partnership for Development and Justice as keynote speaker and was graced by the honourable Vice Chancellor and Pro Vice Chancellor. The seminar encouraged thoughtful discussions on combating discrimination and promoting inclusivity in line with the Sustainable Development Goals (SDGs), with active participation from students, faculty members, and staff reflecting GUB's commitment to equality and justice.



**Preservation of Regional Languages**

Green University of Bangladesh (GUB), through the Center for Language and Cultural Studies (CLCS), organized an event titled "Preservation of Regional Languages (আঞ্চলিক ভাষার লড়াই)" on February 22, 2024, to celebrate linguistic diversity and empower underrepresented groups. The program, graced by the honourable Acting Vice Chancellor, the Dean of the Faculty of Arts and Social Sciences, and the Registrar, featured enthusiastic student participation and highlighted the importance of preserving and promoting regional languages.



SERVICES

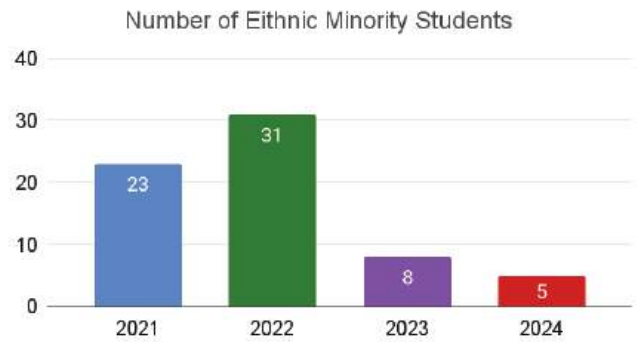
**Equitable Access to Education**

Green University of Bangladesh is offering extensive scholarship programs for students from low socio-economic backgrounds, thereby reducing financial barriers to entry and providing physical and digital accessibility for students and staff with disabilities, including adaptive technology and inclusive campus infrastructure. Running specific programs for marginalized groups, such as students who are first-generation university attendees, ethnic minorities, women, international students and others.



Our University is committed to creating an inclusive and supportive environment for all students, including those with disabilities. Our on-campus Medical Centre is equipped to address the unique needs of disabled students, ensuring they receive timely medical attention and care. To facilitate easy mobility across the campus, we provide wheelchairs and trained supporting staff who are always ready to assist. Our team works with compassion and empathy, fostering a sense of belonging and dignity for every student. At Green University of Bangladesh, we believe that equal access to education and campus life is a fundamental right, and we continuously strive to remove barriers so that all students can thrive.

**Existence of Ethnic Minorities**



Green University of Bangladesh is committed to supporting students from ethnic minorities through a diverse range of scholarship programs as well as offering tuition fee waivers. The admissions office and PRO actively seek to attract students from the minority groups. GUB specifically targets these students because the poor percentage of the population consists of individuals from ethnic communities with limited access to higher education. Here is the shared diagram where we count the number of admitted students from under represented groups at Green University of Bangladesh.



# 11 SUSTAINABLE CITIES AND COMMUNITIES



MAKE CITIES INCLUSIVE AND SUSTAINABLE



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-11: Sustainable Cities and Communities.

## RESEARCH

### Integrating PV-Based Energy Production Utilizing the Existing Infrastructure of MRT-6 at Dhaka, Bangladesh

This study proposes a viable solution for integrating renewable energy into dense urban areas by utilizing the available space on Dhaka's Metro Rail Line 6 for a solar power plant. Financial and environmental analyses confirm the project's feasibility, showing a payback period of 7.7 years and a significant reduction in CO<sub>2</sub> emissions. Simulations from PVsyst and HOMER software demonstrate the plant's cost-effectiveness, with a low levelized energy cost, supporting its potential to lower energy expenses and promote sustainable energy use in Bangladesh.

### Smart Cities, Sustainable Paths: Energy Harvesting and Mobility Solutions for Tomorrow's Urban Landscapes

This study presents a comprehensive strategy to transform Purbachal City into a model of sustainable urban development through the integrated implementation of smart energy, infrastructure, and mobility solutions. The proposed plan includes a highly efficient solar energy system and the introduction of electric buses to replace conventional fossil fuel-powered transportation. Economic analysis confirms the project's strong viability, demonstrating a low energy cost and a favorable payback period. Furthermore, the initiative is projected to achieve substantial environmental benefits by significantly reducing CO<sub>2</sub> emissions, thereby positioning the city as a beacon of smart, sustainable growth.



## EVENTS

### বর্ষবরণ-১৪৩২ - Bengali New Year Celebration 1432

On the occasion of Bengali New Year 1432, Green University of Bangladesh celebrated a vibrant Boishakhi Festival. The event featured a traditional rally, a festive fair with various traditional foods, and a cultural program of music and dance. Students participated enthusiastically in traditional attire, fostering a spirit of cultural pride and celebration across the university.



### Field Trip to Mohera Jamidar Bari, Tangail

On December 1, 2024, the Center for Language and Cultural Studies, Green University of Bangladesh organized an adventurous educational, and enjoyable field trip for the GED course students. This trip included the participation of 250 students from various departments, such as EEE, CSE, and Textile, alongside the involvement of faculty members and supporting staff, bringing the total number of participants to 268. The trip was arranged as part of the Bangladesh Studies and History of the Emergence of Bangladesh courses. In alignment with the course objectives, Mohera Zamindar Bari, located in Tangail a historic site rich with legacies from the British colonial period and the Liberation War of 1971 was chosen as the destination.

# 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



PROMOTE SUSTAINABLE CONSUMPTION AND PRODUCTION



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-12: Responsible Consumption and Production.

## RESEARCH

### Sustainable Strategies for Crystalline Solar Cell Recycling: A Review on Recycling Techniques, Companies, and Environmental Impact Analysis

This paper examines the challenge of photovoltaic (PV) waste by analyzing recycling methods for crystalline silicon solar modules. It reviews company practices, chemical recycling processes, and the techno-economic and environmental aspects of these methods. The study highlights the need for cost-effective and sustainable recycling solutions to ensure the long-term sustainability of the solar energy industry, while emphasizing the importance of advancing circular economy practices in renewable energy systems.

### A Comprehensive Investigation of PV Power Plants Waste Measurement and Profit Analysis: Prospects in Bangladesh

This study examines the growing challenge of solar panel waste management in Bangladesh amid the rapid expansion of large-scale solar photovoltaic (PV) projects. Analyzing six existing power plants, it evaluates the potential recovery of valuable materials such as glass, aluminum, and silicon worth over 258 crore Bangladeshi Taka. The findings highlight the need for a comprehensive recycling and waste management framework to ensure the long-term sustainability of Bangladesh's solar energy sector.

## EVENTS

### Plastic Awareness Campaign and Campus Clean-up Movement

On 20 November 2024, the Eco Warrior's Club of Green University of Bangladesh organized a Plastic Awareness Campaign and Campus Clean-Up Movement. This initiative successfully promoted environmental responsibility and worked towards a cleaner, more sustainable campus.



### Floriculture: An Eco-Friendly and Profitable Agri-Business

In this Seminar, Dr. Farzana Nasrin Khan, the Head of the Floriculture Division at the Horticulture Research Centre under the Bangladesh Agricultural Research Institute (BARI), was the main speaker. During the seminar, she shared valuable research insights on flowers and highlighted effective methods for successful flower cultivation, emphasizing their significance. The students enthusiastically participated in the seminar, engaging in discussions on various topics with Dr. Khan.

13 CLIMATE  
ACTION

TAKE ACTION ON CLIMATE  
CHANGE



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-13: Climate Action.

## RESEARCH

### Electrical Performance and Degradation Analysis of Field-Aged PV Modules in Tropical Climates

This study investigates the performance degradation of field-aged solar photovoltaic modules under Malaysia's tropical climate. Through a combination of visual inspection, electrical measurement, and thermal imaging, the research found that polycrystalline panels degraded at nearly double the rate of monocrystalline panels. It also identified significant hotspots and varying annual degradation rates for key electrical parameters at two different sites. The findings provide critical insights into the long-term performance and aging of PV modules, contributing to the development of more sustainable and resilient solar energy systems in tropical regions.

### Optimizing Energy Solutions

This study proposes a specialized hybrid renewable energy system for Patenga Sea Beach, Bangladesh, designed to overcome local geographic constraints, including proximity to an international airport. The technically and economically viable system, designed to supply a specific daily load, demonstrates a low levelized cost of energy and significant annual power generation. The research confirms the project's resilience through sensitivity analysis and highlights its substantial environmental benefits through CO<sub>2</sub> emission reductions, offering a practical model for increasing the share of renewables in the national energy mix.

## EVENTS

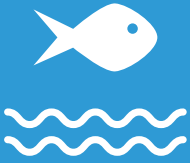
### World Environment Day with the Eco Warriors Club at Kanchan Bazar Park

On 5 June 2024, the Eco Warriors Club organized a day at Kanchan Bazar Park beside the Shitalakshya River, engaging in park clean-up, dustbin donation, tree planting, awareness campaigns, and community discussions to promote sustainability and environmental responsibility.



### Arrangement of Tree Plantation Program

From August 20 to September 23, 2024, the Center for Career Development & Alumni Affairs, in collaboration with the Green University Alumni Association and the ECO Warriors Club, successfully conducted a tree plantation program. Aligning with the national theme "Sajai Desh, Somriddho kori Bangladesh," the initiative planted over 250 Neem tree saplings across five educational institutions. The program was attended by the principals of the respective institutions and university officials, fostering a collective commitment to environmental sustainability.

14 LIFE  
BELOW WATER

PROTECT OCEANS AND  
MARINE RESOURCES



The following are some highlighted research papers that are published by the faculty members of GUB on SDG-14: Life Below Water.

## RESEARCH

### Exploring the Feasibility of Hybrid PV-Wind Energy Plant for Coastal-Tourism Sites

This study designs and optimizes a PV-Wind hybrid energy system for the coastal tourist destination of Kuakata, Bangladesh. Utilizing Vertical Axis Wind Turbines for their low noise and enhanced safety, the system was modeled to be 100% renewable. The analysis demonstrates strong economic viability with a low levelized cost of energy and showcases significant environmental benefits through substantial annual CO<sub>2</sub> emission reductions. The proposed system presents a sustainable and tourist-friendly solution for meeting the region's energy demands.

### A Low-Cost pH Sensor for Real-Time Monitoring of Aquaculture Systems in a Multi-Layer Wireless Sensor Network

This research addresses a critical need in aquaculture by developing a low-cost, maintenance-free pH sensor. Unlike traditional sensors that require frequent chemical calibration, this new design uses electronic calibration and a machine learning algorithm for temperature compensation. The result is a sensor with superior sensitivity (0.316  $\mu\text{A}/\text{pH}$ ) and a significantly faster response time (125 ms), making it highly suitable for continuous, real-time water quality monitoring in aquaculture systems.



## EVENTS

### Investigation of Marine Ecosystems Using Remote Operating Vehicles and Advanced Machine Learning Algorithms at the Coastal Area of the Bay of Bengal.

This project proposes an investigation of the marine ecosystems in the coastal area of the Bay of Bengal, using remote operating vehicles (ROVs) and advanced machine learning algorithms. The study aims to assess the biodiversity, ecological status, and potential threats to marine life in this region, as well as to analyse the water quality, temperature, and salinity issues. The ROVs will collect high-resolution imagery and video data, while also measuring environmental variables such as water temperature, salinity, and dissolved oxygen. Advanced machine learning algorithms will be applied to extract meaningful information from the collected data. The findings of this project will have important implications for the conservation of marine ecosystems and the sustainable use of marine resources and will be presented in the form of recommendations for the local authorities.



15 LIFE ON LAND



SUSTAINABLY MANAGE FORESTS AND ECOSYSTEMS



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-15: Life on Land.

RESEARCH

**Integrated Agrivoltaics and Aquaponic System for Urban Rooftop Farming**

This study presents an innovative urban sustainability model for densely populated cities like Dhaka by integrating agrivoltaics and aquaponics on rooftops. The system combines solar energy generation with a closed-loop aquaponic farm, using fish waste to fertilize plants and harvested rainwater to clean and cool the panels. This approach efficiently utilizes scarce urban space to simultaneously produce food, generate renewable energy, conserve water, and reduce the urban heat island effect, offering a practical blueprint for enhancing urban resource resilience.

**Fraud Detection of Credit Card Using Data Mining Techniques**

This study proposes a credit card fraud detection model aimed at reducing false alarms for both cardholders and financial institutions. Utilizing four data mining techniques Decision Tree, Random Forest, Artificial Neural Networks, and Logistic Regression on a dataset from Kaggle, the model employs feature selection to enhance performance. The results show that Logistic Regression achieved the highest accuracy of 99% while successfully minimizing false alarms, thereby advancing sustainable and effective fraud detection in the era of Industry 4.0.

EVENTS

**World Environment Day**

The Department of Sociology at Green University of Bangladesh organized a vibrant World Environment Day celebration. The event featured a "Green Walk," a tree exchange, and a seminar on "Environmental Sustainability." Distinguished guests, including the honourable Vice-Chancellor and Pro-Vice Chancellor, addressed the audience, emphasizing collective responsibility for the planet. The program also included an oath for a green world and a campus cleaning activity, successfully uniting participants in a commitment to environmental action.



**Tree Plantation Program**

Green University organized a tree plantation program to promote sustainability and environmental awareness among students and faculty, contributing to a greener and healthier campus.

# 16 PEACE, JUSTICE AND STRONG INSTITUTIONS



PROMOTE PEACE AND INCLUSIVE SOCIETIES



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-16: Peace, Justice and Strong Institutions.

## RESEARCH

### Enhancing Cyberbullying Detection in Bengali Language Through Hybrid Ensemble Method

This research addresses the critical need for effective cyberbullying detection in Bengali-language social media comments by introducing a state-of-the-art hybrid model. The proposed system uniquely combines BERT embeddings with other features and employs an ensemble of machine learning and deep learning models, optimized with Particle Swarm Optimization. Achieving a high accuracy of 99.26%, this ensemble model sets a new performance standard for identifying cyberbullying, offering a powerful tool to help mitigate online harassment and support timely intervention.

### An Approach to Detect Abusive Bangla Text

This study addresses the significant gap in abusive text detection for the Bangla language, a crucial need for combating online harassment and cybercrime in Bangladesh. The authors propose a novel method featuring a root-level detection algorithm and unigram string features to improve classification accuracy. This work provides a valuable foundation for developing more effective tools to identify and prevent abusive content in Bangla social media comments.

## EVENTS

### First Round of Legal Debate Competition of Department of Law and Invitation to Witness the Final Round

The Department of Law at Green University of Bangladesh organized an Intra-Department Legal Debate Competition from March 27-28, 2024. The event was inaugurated by the Acting Dean and the Department Chairman, featuring enthusiastic participation from students across all batches. After initial rounds on the first day, the competition proceeded to semi-finals and a grand finale on March 28, debating topics like environmental laws and media trials. A prize-giving ceremony was scheduled for March 29.



### Eco Debate Competition

On 15 March 2024, Green University of Bangladesh organized an Eco Debate Competition to engage students in discussions on environmental issues and sustainability. Participants showcased critical thinking, effective communication, and innovative ideas, promoting awareness and active involvement in environmental conservation.



## UNIVERSITY ACTIVITIES

### Celebration of International Human Rights Day 2024

On 12 December 2024, the Department of Law at Green University of Bangladesh observed International Human Rights Day 2024 through an academic and advocacy-focused program to promote awareness among students and faculty. The event featured a rally titled “Our Rights, Our Future, Right Now,” a peace pigeon release, and a poster exhibition on global and national human rights issues. The formal session, opened with interfaith recitations, included addresses by university leaders and Chief Guest Professor Dr. Nakib Muhammad Nasrullah, who highlighted the role of academia in fostering a culture of rights and dignity.



### National Television University Debate Competition on BTV

On 19 April 2024, the Green University Debating Club (GUDC) took part in the BTV Debate Competition. This remarkable opportunity allowed the team to express their ideas, arguments, and critical perspectives on a national stage. Their participation reflected the passion, dedication, and intellectual spirit that GUDC has always carried forward. It was a proud achievement that added another milestone to the club's journey of excellence.

### Lecture Series-01 on Freedom of Speech and Media Literacy

On 15 March 2024, the Department of Journalism and Media Communication organized Lecture Series-01 on “Freedom of Speech and Media Literacy” at the JMC Media Lab. Syed Istiaque Reza, CEO and Editor-in-Chief of Global Television, delivered the keynote speech, offering insights into journalism and freedom of expression in the digital era. Led by Dr. Aliur Rahman, the event fostered engaging discussions and enhanced students' understanding of media freedom and digital literacy.



### 15th Henry Dunant Memorial Moot Court Competition

On 8-9 November 2024, a team from the Department of Law, Green University of Bangladesh comprising Shahera Akter, Syed Alamgir Hussain, and Akram Bhuiyan represented the university in the 15th Henry Dunant Memorial Moot Court Competition, Bangladesh National Rounds 2024. Competing among 23 teams from leading universities, the GUB team showcased outstanding legal skills and advanced to the quarter-final round of this prestigious national event.



17 PARTNERSHIPS FOR THE GOALS



STRENGTHEN GLOBAL PARTNERSHIPS



The followings are some highlighted research papers that are published by the faculty members of GUB on SDG-17: Partnerships for the Goals.

RESEARCH

**Energy Cooperation Among Sustainable Base Stations in Multi-Operator Cellular Networks**

This research presents an optimal energy cooperation framework for multi-operator cellular networks to balance the conflicting goals of minimizing energy cost and transmission loss. The proposed solution uses a Deep Q-Learning method to predict future energy harvesting and traffic loads, formulating the problem as multi-objective linear programming. Simulation results demonstrate that this framework outperforms existing methods by achieving a superior trade-off between cost-efficiency and energy-loss reduction, thereby enhancing the sustainability of green cellular networks.

**An ARCH Volatility Analysis of Real GDP, Real Gross Capital Formation, and Foreign Direct Investment in Bangladesh**

This study investigates the volatility of key macroeconomic growth rates in Bangladesh, including real GDP, capital formation, and foreign direct investment, using data from 1972 to 2020. By applying ARIMA and ARCH models, the research confirms the presence of time-varying volatility, with conditional means and variances influenced by previous years' growth rates. The findings offer valuable insights into the fluctuating nature of the economy, aiding in the assessment of potential risks associated with macroeconomic instability.



EVENTS

**MoU signing ceremony between the Green University of Bangladesh & Assurer Group**

On 4 December 2024, the Department of Textile Engineering successfully organized a seminar on “Management of Sustainable Manufacturing and Sourcing of Fiber to Apparel.” The keynote speech was delivered by Dr. Raashid Ashraf Khan, who emphasized the importance of sustainability in the textile sector. The event was graced by the Vice-Chancellor, Prof. Dr. Mohammad Shorif Uddin, who highlighted the role of AI and automation in industrial sustainability. Chaired by Prof. Dr. Nitai Chandra Sutradhar and moderated by Dr. Md. Shariful Alam, the seminar concluded with a strong focus on sustainable manufacturing and energy use.



**Airtel Adda**

On 15 February 2024, the program “Airtel Adda”, organized by Pixel Search Limited under the supervision of the Office of Student Affairs, was successfully held at Green University. The event featured a campaign and a lively concert with performances by Blue Jeans, Ashes, and the Green University Student Band. Students’ enthusiastic participation made the program vibrant and memorable.



## INDUSTRY/NGO PARTNERSHIPS

### MOMODa Foundation

The Green University of Bangladesh (GUB) signed an MoU with the Momoda Foundation to advance Sustainable Development Goals (SDGs) through joint initiatives promoting social, economic, and environmental sustainability. The partnership aims to implement impactful projects, enhance community engagement, and foster educational excellence in addressing global challenges.

### Association for Integrated Development (AID)

The Green University of Bangladesh (GUB) and the Association for Integrated Development (AID) signed an MoU to promote sustainable development aligned with the UN SDGs. The partnership focuses on research, policy development, and community projects addressing poverty, education, gender equality, and climate resilience, supporting Bangladesh's Vision 2041 and SDGs 2030 goals.

## INDUSTRY PARTNERS



## UNIVERSITY PARTNERSHIPS

### MoU Signing Ceremony with Vellore Institute of Technology, India

In a significant step towards academic collaboration, Green University of Bangladesh (GUB) and Vellore Institute of Technology (VIT) have agreed to a partnership that will foster student and faculty exchange through semester and summer school programs, promote joint research initiatives, and facilitate faculty development, all aimed at driving innovation and providing global educational opportunities. Wuhan Institute of Technology (WIT) offered scholarships for Green University students to pursue Masters and PhD programs in Material Science and Engineering. The scholarships covered tuition, accommodation, and a monthly stipend.

### Scholarship Opportunity Announcement at Wuhan Institute of Technology

On February 21, 2024, Wuhan Institute of Technology (WIT) offered fully funded Masters and PhD scholarships in Material Science and Engineering for Green University students, covering tuition, accommodation, and a monthly stipend. Interested EEE and Textile students were asked to submit their CVs and WhatsApp numbers to the International Affairs Office, with a valid passport required for application.

## UNIVERSITY PARTNERS





GUB CAMPUS

**EVENTS**

**3rd International Conference on Innovation and Transformation for Development ITD 2024**



The Faculty of Arts and Social Sciences and the Center for Language and Cultural Studies at Green University of Bangladesh organized the 3rd International Conference on Innovation and Transformation for Development (ITD 2024) on November 9–10. Featuring keynotes, plenaries, and over 300 presentations, the event united scholars from Bangladesh and abroad under the theme “The World at a Crossroads: Issues in Arts and Social Sciences,” focusing on global challenges and promoting peace, ethics, and human development.

**6th International Conference on Science, Technology, and Innovation (STI)**



On 14-15 December 2024, the Faculty of Science and Engineering at Green University of Bangladesh organized the 6th International Conference on Science, Technology, and Innovation (STI) to address the challenges of the Fifth Industrial Revolution. Inaugurated by Professor Dr. Hossain Uddin Shekhar, the event featured renowned academics and industry experts and brought together participants from 32 countries to promote innovation, sustainability, and collaboration between academia and industry.

**STI-2024**



**51** research papers were published through international collaboration

**277**

Courses are aligned with SDGs



**7**  
Keynote Speakers

**260+**  
Authors

**125+**  
Senior Academic

**25+** industry Practitioner From **35+** Countries

# LIST OF COMMITTEE MEMBERS

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**MK. Anamul Haque**  
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**Eсфаага Mim**  
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Lecturer, TEX  
**Tamal Nag**  
Lecturer, CLCS

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Lecturer, CLCS  
**Sayma Yeasmin**  
Lecturer, CLCS  
**Takvir Anam**  
Lecturer, EEE  
**Abrar Hasan**  
Lecturer, SWE  
**Humayra Mahzabin Khan**  
Registrar Office  
**Jahid Hasan**  
Lecture, CLCS  
**Golam Rabbani**  
Lecturer, CLCS  
**Naeem Ahmad**  
Junior Office, Admission

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**Md. Samiul Islam**  
Assistant Professor, SOC, (Convener)  
**Azmera Sultana**  
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**Sourav Chandra Das**  
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**Syed Mahmudul Hasan Mehedi**  
Lecturer, EEE  
**Md. Mohi Uddin Mohin**  
Lab Technician, EEE  
**Shariful Islam Sharif**  
Electrical Engineer, GUB

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**Laila Ferdousy**  
Assistant Professor, GBS

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Lecturer, TEX  
**MS. Suraiya Ireen**  
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**Md. Al Amin Hossain**  
Lecturer, TE  
**Ms. Aklima Akter**  
Lecturer, ENG  
**Mr. Kamran Ahmmed**  
Lecturer, EEE

## 11 SUSTAINABLE CITIES AND COMMUNITIES

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Director, GCITS, (Convener)  
**Md. Rajibul Palas**  
Lecturer, CSE, (Member Secretary)  
**Babe Sultana**  
Lecturer, CSE  
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