GREEN CAMPUS, IUB

Campus Sustainability Report

2021-22

The Islamia University of Bahawalpur Pakistan

Vice-Chancellor Message:

Today, in the global society, we are confronting significant environmental, economic, and social challenges, from climate change risk to food security, water shortages, and inequality. Now, more than ever, institutes of higher learning are bound to act beyond teaching and research to help achieve a sustainable future by undertaking cutting-edge initiatives. Again this backdrop, the Islamia University of Bahawalpur (IUB) is committed to providing solutions to the pressing issues to improve the living experience in this world. At IUB, we strive to develop a dynamic and motivated sustainable community and integrate innovative practices of sustainability into our routine operations.

In this 2022 Campus Sustainability report of IUB, we communicate how IUB delivers on sustainability commitment. The first baseline sustainability report provided a snapshot of progress toward achieving a sustainable system. The report now elaborates on information about existing and new initiatives, upgraded practices, and sustainability targets for the following year. It also overviews how the sustainable practices at the university are of public benefit due to their influence on students and the community. Importantly, we focus on the community within the university to lead the required changes in technology, processes, and habits. For this, we have at our credit behavioral interventions like afforestation drives, awareness sessions, campaigns for waste reduction and responsible consumption, along with other environment-friendly projects.

I trust our practices will develop a sustained culture of transformation within the IUB and will deliver its benefits to the larger community. In this regard, I see IUB as a role model for other institutes of higher education in Pakistan. I want to thank the entire team of the Environment Management Committee (EMC) and IUB for their efforts in documenting this report in a valued manner. I also thank the staff, students, faculty, and all others who value sustainability and work to make this campus a better place. As Vice Chancellor of the IUB, I commit to bringing innovative practices to ensure sustainability in all spheres of life.

Engr. Prof. Dr. Athar Mahboob
Vice Chancellor,
The Islamia University of Bahawalpur Pakistan

Director Message:

Welcome to the Islamia University of Bahawalpur Campus Sustainability Report 2021-22. The Campus Sustainability Report demonstrates the University's commitment to making a positive impact through outstanding environmental sustainability performance. It also sets out our plans for achieving this, including objectives, targets, and Key Performance Indicators (KPIs). This report shows that progress towards our ambitious environmental targets is well-founded, making IUB a regional and national leader in tackling climate emergencies.

This document presents you with the evaluation, achievements, and future goals from August 2021 to September 2022. It has been a year of challenges and accomplishments for everyone across the campus regarding environmental issues and actions. In the face of these, I am glad to report so many positive initiatives across the University. With the completion of the first successful year of our Green Campus (GCP) project, we already have started impacting a large part of the stakeholders in this prestigious academic institute. Several initiatives we have taken have continued to take place remotely and effectively. These include developing and approving University Environmental Policy, Volunteer memberships, plantation drives, practicing responsible resource consumption, an Integrated Environmental Management System, etc.

Our rigorous team efforts have achieved soft and short-run targets of making IUB a green and sustainable university. However, challenging years are ahead as we are to make interventions in the operations of the IUB. Yet we will continue to educate stakeholders and make them realize that environmental and sustainable issues are their issues. The transition will be easy and permanent if we are successful in sensitizing the employees of the IUB on ecological and sustainability issues. I thank our team, students, faculty members, staff, and everyone who has welcomed and contributed to sustainability with new ideas and unwavering enthusiasm.

Dr. Abid Rashid Gill
Director Green Campus Project,
The Islamia University of Bahawalpur, Pakistan

Contents

1 Background

Responsibility for enduring sensitized efforts of the long-standing institution of higher learning, the Islamia University of Bahawalpur (IUB), Pakistan, is at the heart of the Environment Policy of the University. These environmental responsibility goals are accomplished by leading research and collaborations and improving operations and innovative sustainable practices. The environment policy of IUB outlines several targets that stress increases the campus capacity to embed sustainability in everyday life so that sustainable attitudes become the rule and not the exception. In this connection, Green Campus Project (GCP), IUB is committed to regularly reporting the University's progress towards meeting environmental targets, sustainability vision, policies, and strategies. Sustainability reporting is a way to build a long-run strategy for achieving the sustainable goals of a university. It includes the communication of a progress state towards these objectives. Creating the sustainability report allows the University to reflect on the past reporting period. The University can evaluate areas where it has made progress and lagging.

Large-sized public sector universities are like small cities with a large population, acreage, and complex operational activities. The everyday activities on the campus have significant environmental implications and call for prioritizing the sustainability concerns by university planners and stakeholders. An environmentally sustainable campus is considered to cause the least environmental degradation while producing education and research services for the community. Theoretically, a sustainable university can be defined as "A higher educational institution, as a whole or as a part, that addresses, involves and promotes, on a regional or a global level, the minimization of negative environmental effects generated in the use of environmental resources to fulfill its functions of teaching, research, outreach and partnership, and stewardship in ways to help society make the transition to sustainable lifestyles" (Velazquez et al., 2006). The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. Since University is a community, the sustainability goals may address urgent environmental preservation challenges in the campus area, thereby providing a controlled environment for the change interventions.

The Islamia University of Bahawalpur (IUB), Pakistan, is one of the largest public-sector universities with around 70,000 population in a little over 1400 acres. The Worthy Vice-Chancellor (WVC) has taken many initiatives to transform the IUB from a traditional university to a sustainable/green campus. Many eco-friendly development projects for water management and green energy with the help of the Punjab Government and other funding agencies have been completed. Moreover, the IUB started an integrated environmental management program in June 2021 after the Syndicate's approval to address the university campus's environmental concerns in line with the concept of a sustainable campus.

In the second year of implementation, the IUB demonstrated enhanced awareness among faculty, students, and staff on sustainability initiatives. From plantation drives to promoting green infrastructure to examining what it would mean to implement eco-friendly practices on campus, the IUB community has played an active role in nurturing the social and ecological system.

This second sustainability report highlights our progress towards Islamia University's sustainability goals as outlined in SDGs. As we enter the next year of plan implementation, we have the opportunity to let the past year's collaborations inspire us—we can incorporate sustainability not just in distinct projects, but in our every action, for the long term.

1.1 Environmental Management Committee (EMC)

A green and sustainable university implements sustainability practices in all its day-to-day activities. Nevertheless, sustainability research has only focused on specific sustainability aspects in the higher education industry and neglected the simultaneous integration of green initiatives. To execute the vision of sustainable/green campus, WVC, IUB therefore had formed a comprehensive, integrated environment management committee (EMC).

This committee aims to ensure that environmental targets as per policy are materialized in due course of time and the right direction. The committee reviews policy goals and programs to meet those goals. Based on its evaluation, heads of respective domains share recommendations and methods of improved compliance. Implementation and execution of various initiatives are core objectives of EMC for pollution prevention, environmental footprint reduction, environmental stewardship, and on-campus collective sustainability. Keeping in view the previous year's challenges, EMC's structure is modified in the current fiscal year. Therefore, each domain of environmental action is restructured into two tiers, i.e., academic expertise and implementation strategy. This is a more realistic, collaborative, and integrated approach to mitigate the gap between research-based knowledge and execution. Stakeholders from each relevant department of the IUB are engaged to find better solutions while keeping the expected constraints and issues in view. A schematic layout of the EMC is illustrated here:

Figure.1: A Schematic Layout of The Environmental Management Committee (EMC), IUB.

As sustainability becomes more ingrained in the framework of the university, the importance of effective monitoring and reporting sustainability becomes more critical. EMC had completed the first baseline sustainability report to surmise the progress of IUB on the ecological front by introducing the objectives and measures of the environmental management program for the coming years. Regarding the baseline report, the second sustainability portrays leads and lags in each target and the action plan for the coming years.

2 An overview of the IUB's Progress Towards a Sustainable and Green University

Paper Management 	
Optimize paper use per head and increase the digital footprint of the IUB.	
Optimized use of paper in thesis and project: both sides of the page usage, single space and reduced margins and optimized content	✓
Both sides of paper used in offices, maximum online conferences and meetings	✓
Promote initiatives for paper-free exams and paper-free campuses.	
Energy Management 	
Optimize energy consumed per head (kwh/time unit/ number persons).	
Increase the amount of electricity generated/consumed from renewable energy sources in total electricity generated/consumed at the campus.	✓
Optimize gas per head use (CFT/ number of persons).	
Promote energy-efficient electric compliance at the campus.	
Promote the culture of energy conservation among IUB employees and students through social media campaigns.	
Sensitize IUB employees and students about the environmental consequences of the misuse of energy.	
Green Procurement 	
Promote green and sustainable procurement initiatives and ensure that all goods and services procured by the university should have minimum adverse environmental outcomes.	

Water Management 	
Optimize water consumption per litre per person and increase the share of recycled water in total water consumption at IUB	
Promote the culture of water conservation among IUB employees and students through social media campaigns	
Sensitize IUB employees and students about the environmental consequences of the misuse of water	
Green Health Care 	
Promote initiatives to optimize the use of medicine and health expenditures at IUB through green healthcare practices.	
Prepare a baseline about the health status of the students of the IUB.	✓
Food Sustainability 	
Increase the amount of recycled waste against total generated waste.	
Promote trash management with sustainability SOPs and compost, resource conservation, recycling, and reuse.	
Optimize the use of plastic bottles and bags on campus.	
Promote the initiatives to minimize food wastage and sustainability in food consumption.	
Promote the culture of food saving in food selection, cooking and food usage and promote the initiative to make all food points at the campus green food points.	
Promote a culture of food and plastic wastage control through eco-food festivals and social media campaigns.	
Sensitize IUB employees and students about the environmental consequences of plastic usage.	

Sustainable Infrastructure

Promote initiatives through a master plan of the University for green infrastructure: green and integrated buildings.
Ensure that the renovation of old buildings must be green to make them energy and water efficient.
Promote sustainable campus mobility such as greenways, footpaths, cycleways, preservation of the university landscape, biodiversity, and green spaces

Sustainable Mobility

Optimize the use of fuel per head by university administrative and per student
Promote initiatives to minimize the use of vehicles and encourage walk and the use of bicycles on the campus.
Promote car and motorcycle pooling employees and the students of the IUB
Promote initiatives to utilize technology (i.e., algorithms) to identify roots with more students, heavy traffic, and other potential issues to rationalize the bus roots.
Better methods of communicating transit-related information, such as bus tracking info on smartphone apps and improved signage at bus stops
The schedule of teaching activities/classes/workshops so that students have maximum contact hours per day in the department, thereby optimizing their mobility.
The policy of 2 credit hours teaching on campus and one online to optimize mobility.

Conferences, Seminar and Workshops on environment &Sustainability

Promote initiatives to increase conferences, workshops, and seminars on local, national, and global environmental and sustainability issues.

Behavior Management

Develop sustainability SOPs for all academic, research, cultural and sports activities at the university campuses.
Ensure that all academic, research, cultural and supports activities taking place at the campus should be in line with sustainability SOPs
To create awareness about environmental issues of the university and society through workshops, seminars, and conferences.
To foster environmentally responsible citizenship and environmental literacy.
To create an institutional culture of sustainability and practice institutional ecology.

Research on Environment &Sustainability

Promote research and project on local, national and global environmental and sustainability issues.
Promote initiatives to take sustainability issues as a research challenge of the university.

Green Curriculum

Promote initiatives to include maximum sustainability and environmental issues subjects in graduate and post-graduate classes.

Sustainable Tourism & Residence

Practice & Public awareness of greener & cleaner societal lifestyle.
Promote Community based ECO-Tourism at the university.

Students' involvement and training

To set up student societies to increase their involvement and training in environment and sustainability activities

3 Sustainable Infrastructure & Green Building

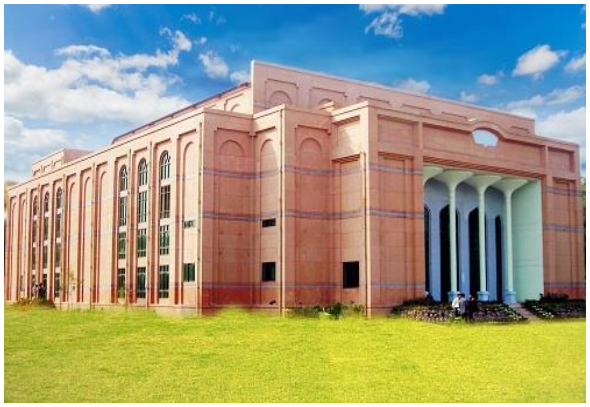
Goals & Performance

Promote initiatives through a master plan of the University for green infrastructure: green and integrated buildings.	✓
Ensure that the renovation of old buildings must be green to make them energy and water efficient.	
Promote sustainable campus mobility such as greenways, footpaths, cycleways, preservation of the university landscape, biodiversity, and green spaces	

The essential element of a sustainable and green university is green infrastructure especially green buildings. A university can only achieve water and energy conservation goals with green infrastructure. Green infrastructure seeks to minimize the negative environmental impact of buildings by efficiency and moderation in the use of materials, energy, and development space. It uses a conscious approach to conserve energy and ecological aspects in the design of the buildings. This practice increases the efficiency of buildings, energy, water, and materials and reduces building impacts on human health and the environment. Furthermore, effective green building can reduce operating costs by increasing productivity due to improved indoor air quality and reducing environmental impacts using sustainable resources. Therefore, the current regime is determined that the IUB must have a green infrastructure in the coming years through different initiatives.

3.1 Campus Infrastructure

The IUB provides students with opportunities and chances to enhance their social development by living on a campus with excellent and sustainable infrastructure. Students are allowed to study in Spacious Halls, Lecture Rooms fully ventilated, and other interactive places for outdoor activities. The habitat area of IUB consists of buildings: teaching buildings, main auditorium, central library, housing colony for faculty and staff, well-furnished hostel facility for the students, sports complex, cafes, and canteens. In contrast, the non-habitat area consists of agricultural land, dunes, and experimental regions, which will be converted into habitat areas after the infrastructure expansion. In addition, the open spaces act as a buffer zone and have green passages/links for the university community to encourage pedestrians' culture in the University.



All existing buildings are not by the criteria of a green building due to the factors: less appropriate to the culture, less energy-efficient buildings design, extensive use of imported materials and no provision of green roofs, liquid waste segregation in the drainage system and rain harvesting.

3.2 Master Planning of University

Since 2019, following the vision of Worthy Vice Chancellor (WVC) Engr. Prof. Dr Athar Mahboob, the IUB, is committed to having all new buildings green buildings. The WVC activated the Campus Development Committee (CDC), which comprises senior professors, professionals from the Punjab Government's highway departments, and the water and power development authority (WAPDA). The regular meetings of the CDC are held to execute the vision of WVC of green infrastructure for the IUB. In the last conjunction held in 2020, CDC approved the master plans for all campuses of the University: BJ Campus, Abbasia Campus, Khawaja Fareed Campus (KF Campus), Rahim Yar Khan Campus and Bahawalnagar Campus. These master plans were prepared by the consultants and concerned professionals, reflecting the future needs of the University and its campuses for the next 50 years with all the basic and allied facilities that are mandatory for developing a green campus.

Under the master Plan, The IUB is committed to having a comprehensive and continuous land use planning process that results in a flexible framework to guide future decision-making. The University consider using resources from environmental, operational, economic, historical, and cultural perspectives to support its teaching/learning and research. Main aim while planning land use and zoning of the university campus is to protect and enhance campus open Space, providing an appropriate balance (qualitative and quantitative) to the built environment. The master plan ensures that new green buildings and green renovations of existing buildings are architecturally compatible with the best features of existing adjacent buildings and are harmonious with their contextual surroundings.

3.3 Open Spaces, Landscape and Smart Building System

The Islamia University of Bahawalpur focuses on enhancing the educational system, introducing new learning techniques, and making campuses more beautiful, charming, attractive, and better. For this purpose, landscape beauty has become as important as the quality of education. To make the campus more beautiful, IUB used traditional landscape elements that are functional from an environmental point of view. These elements add value and beauty to the campus and provide students, professors, and other people with fresh air to breathe in and a new environment to enjoy and work in. The main idea behind all these landscapes and open spaces is that if a student is given the gift of studying under the shade of a tree, he will indeed feel relaxed, and a cool breeze will make the student happy. As a result, the student will surely be able to concentrate on their studies and will not feel bad, sad, depressed, or stressed.

4 Sustainable Waste Management

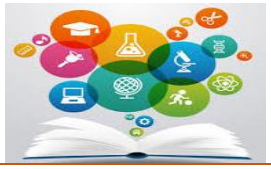
Goals & Performance	
Increase the amount of recycled waste against total generated waste.	
Promote trash management with sustainability SOPs and compost, resource conservation, recycling, and reuse.	
Sensitize IUB employees and students about the environmental consequences of plastic usage.	

The Islamia University of Bahawalpur (IUB) is in the process of adopting the Sustainable Waste Management Solution (Zero Waste) project to make the environment of the University clean & green. The IUB will be the 1st public sector institution to adopt this environment-friendly, clean & green step in Pakistan. At the first stage of the Project, the IUB will be able to produce the following:

1. Organic Fertilizer (in the form of Compost)
2. Bio-fuel Pellets for Domestic and Energy usage
3. Dry & Liquid Fuel

Later on, this Project will be expanded commercially to the Bahawalpur Region to provide organic fertilizers for producing organic food and supplying energy resources as mentioned above. Therefore, this Project will not only be the source of income generation for the IUB but also convert the Bahawalpur Region into a clean, green, and environment friendly. Moreover, under the Green Campus Project (GCP), awareness campaigns are underway to promote an eco-friendly lifestyle among IUB's employees and students so that they generate minimum trash in their day-to-day activities.

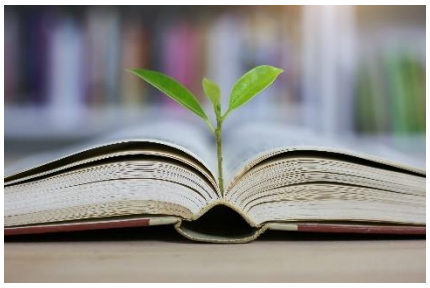
5 Green Curriculum



Goals & Performance

Promote initiatives to include maximum sustainability and environmental issues subjects in graduate and post-graduate classes	✓

Beside training future professionals and specialists, the university should also educate students and society on environmental and sustainability issues (Stough et al., 2018). For instance, sustainability issues should be included in science, humanities, technology, and management sciences to promote soft green skills (Leal Filho et al., 2018). Furthermore, educating students on environmental issues means investing in a sustainable future, as 80 percent of the university members are between 19 and 26 years old, as stated by the Worthy Vice Chancellor of the IUB.



The implementation of sustainability in the curriculum offered by IUB can be examined horizontally and vertically. From a horizontal viewpoint, IUB has introduced an introductory course on environment and sustainability for all undergraduate programs. From a vertical perspective, a full degree in environmental science is also offered at the Faculty of Agriculture. In addition, the curriculum wing of GCP has also increased the number of environment-related courses in different disciplines. For instance, environmental behavior, political ecology, and environment and resource economics have been introduced in the Phycology, Political Science, and Economics departments. In the future, more environment-related courses will be introduced in different departments. All these efforts have increased the courses on environment and sustainability in 2022 in the IUB and are expected to increase in coming years, as shown in Fig-2.

Figure.2: A Comparison of 2022 and 2021 on the Environment & Sustainability Courses Offered at the IUB.

6 Research on Environment and Sustainability

Goals & Performance

Promote research and project on local, national and global environmental and sustainability issues.	✓
Promote initiatives to take sustainability issues as a research challenge of the university.	✓

The green and sustainable university also promotes research on the sustainability issue. In this regard, the IUB has taken environmental and sustainability issues as a research challenge. The IUB faculty have been encouraged to search for innovative solutions to local, national, and global ecological issues. Throughout the year, environmental solutions related to agriculture, science, commerce, trade, and other socioeconomic domains were focused on. According to the IUB Office of Research, Innovation, and Commercialization (ORIC), there has been a substantial increase in research on sustainability and environment-related issues, as manifested in the fig-3 below.

Figure.3:A comparison of 2022 & 2021 on the Environment and Sustainability Research at the IUB.

7 Conferences, Seminars, & Workshops on Environmental Sustainability

Goals & Performance

Promote initiatives to increase conferences, workshops, and seminars on local, national, and global environmental and sustainability issues.	✓

Universities are not only places for research and learning but also have more social responsibility than any other institution. They educate students about sustainability concerns

and enable them to become ambassadors of change for society. To exploit this vast potential, there are countless avenues at academic and operational levels, even within the boundaries of a single campus. Evidence suggests that behavioral changes and informed actions are much ahead of classroom teaching.

Small interventions for students and the campus community can materialize the desired changes in attitudes. This bottom-up approach is a low-hanging fruit with the least or no cost. Interventions like awareness campaign walk, seminars, workshops, conferences, and volunteer engagement have far-reaching collective benefits for society. Such activities bring up thoughtful debates and deeper insights from diverse segments of academia, business communities, and local and international organizations. Such debates provide the basis for finding better solutions to environmental and sustainability issues. Moreover, seminars, conferences, and other integrated efforts encourage policymakers and beneficiaries of local societies to work together for similar causes.

In 2021-22, the IUB organized numerous activities for local and national communities. Such as celebrating various environmental days, conferences, seminars, campaigns, etc. There are almost 30 international days related to the environment and sustainability. IUB observed eight days: forest Day, Earth Day, Biodiversity Day, Wildlife Day, Wet Land Day, Soil Day, Water Day, plant health day, etc. The IUB intends to celebrate more environment and sustainability days in the upcoming year. All these celebrations aim to sensitize students, staff, and faculty about the value of the natural environment and how they play a responsible role.

Students taking part in one student one plant Drive

In addition, the IUB also organized many climate conferences, including a one-day international virtual conference on Environmental Protection and Social Responsibility and a conference on the Issues of Smoke and Loss of Biodiversity. Multiple national and international speakers participated in these conferences and presented practical implications.

In addition, Green Campus Team brings regular awareness among students and faculty through propagation and practical demonstration. The Friday is declared as Less Carbon Day on campus. The students and employees are appealed to commute by bicycle, pooling motorcycle, or car to mitigate their carbon footprint. The awareness creation drive of GCP ensures that people are well-informed and have a better understanding of how sustainability issues affect their day-to-day and upcoming lives. In the future, more such initiatives are planned with a particular focus on research activities.

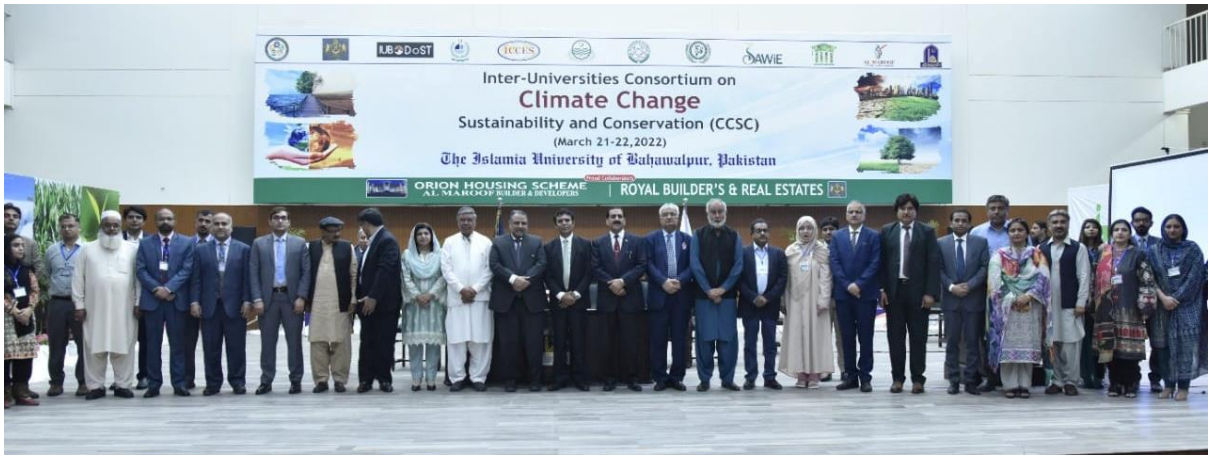
In the context of sustainability, IUB is on board to achieve and collaborate for all 17 Sustainable Development Goals (SGDs) of the United Nations (UN). These goals are connected and designed to become a prototype for achieving a finer, more viable, and unceasing future for all. The SGDs call to end poverty, eradicate diseases, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

7.1 Sustainability Collaborations

The Islamia University Bahawalpur has not only aimed to work on SDGs within the campus but has also collaborated with the UN regional office to seek assistance and support in chasing the targets for south Punjab. The University has organized different events to involve the relevant stakeholders. For instance, in May 2022, an SDGs seminar was organized where the Additional IG, Southern Punjab, and Chairman SDGs Academy Islamabad participated with Vice Chancellor IUB. This interactive discussion focused on the Life on Land and Life Below Water, along with Climate Action goals. Besides this, the panel discussed in detail the SDGs with students. Panelists also highlighted the importance of regional action and preservation of the natural environment of the Southern Region.

7.2 Consortium on Climate Change, Sustainability & Conservation (CCSC)

In 2021-22, the Islamia University of Bahawalpur (IUB), Pakistan, has taken the initiative of the Consortium on Climate Change, Sustainability & Conservation (CCSC), in which more than 57 Universities/Research Organizations/Private Sector/Industries from all regions of Pakistan (Azad & Jammu Kashmir, Gilgit Baltistan, ICT, KPK, Punjab, Sindh, and Balochistan). As part of this consortium, the university has planned to extend it across borders (at the international level) to work together to address the significant challenges related to climate change, agriculture, food security, sustainability, etc.



Recently, IUB became a member of the Global Alliance for Climate Smart Agriculture (GACSA), Office of Climate Change, Biodiversity and Environment (OCB), and Food and Agriculture Organization of the United Nations (FAO) & The IUB is the focal university of the CCSC is playing a leading role in keeping this consortium alive & in executing practical/applied research. The IUB also has established the "International Center for Climate Change, Food Security and Sustainability (ICCFS)." The ICCFS will contribute to multiple United Nations Sustainable Development Goals (SDGs) not limited to SDG-1 (no poverty), SDG-2 (zero hunger), SDG-7 (Affordable and Clean Energy), SDG-11 (Sustainable Cities and Communities), SDG-13 (climate action), SDG-15 (life on land), SDG-17 (partnerships for the goals).

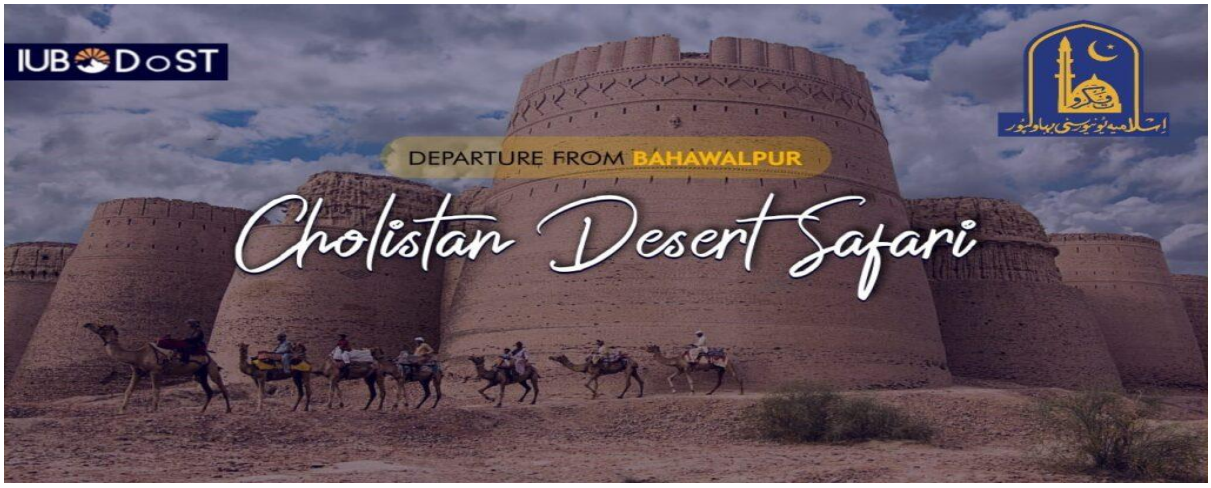
In the future, the top priorities would be to benefit the community, students, researchers, scientists, policymakers, farmers, industrialists, and the business community through joint research projects, research training, workshops, seminars, conferences, and capacity-building initiatives.

8 Sustainable Tourism

Goals & Performance

Practice & Public awareness of greener & cleaner societal lifestyle	✓
Promote Community based ECO-Tourism	✓

IUB Directorate of Sustainable Tourism (IUB-DOST) commits to making a low impact on the environment and local culture while helping to generate future employment for local people. The positive of sustainable tourism is devised keeping in view the local potential for tourism challenges. Given the archeological heritage and natural scenery of local regions, there is a need to ensure that tourism becomes a pleasant experience for local people, tourism companies, and tourists themselves. This is the need of the inhabitants of Bahawalpur, and the IUB is aimed to care for them. The IUB not only aims to provide sustainable choices but also focuses on the employment generation in hotels, restaurants, and tourism as the industry steps foot in the region.



Sustainable tourism, as per the United Nations World Tourism Organization, meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. Therefore, the Worthy Vice Chancellor authorized IUB-DOST to develop 27 STGs (Sustainable Tourism Goals) as hors d'oeuvre to initiate this new concept in Pakistan and carry forward the work already in process in the global economies. As a result, during 2020-22, IUB-DOST made significant progress in achieving most of the STGs.

1. The IUB is the first University to initiate a directorate: IUB-DOST, with a principal focus on sustainability in tourism, primarily at Bahawalpur, and later take up Pakistan as a whole.
2. IUB-DOST also focuses on ecotourism/ green tourism/ responsible tourism to adopt international rulings to meet the international standards on each attribute for national & international adequacy.
3. IUB-DOST has prepared a model of Community-based ECO-Tourism and presented it at different forums. The model for tourism, wherever implemented, ensures.

Livelihood for local dwellers, preservation of culture & heritage and Protection of flora & fauna of the region. The Director, IUB-DoST, presented the model for developing community-based ecotourism at AHK (National Center for Rural Development, Islamabad). All concerned circles appreciated the model. The model mentioned above has acquired popularity among entrepreneurs and the public & private sectors of Pakistan.

8.1 Sustainable Habitation Initiatives Dost-IUB & GCP IUB

The Director Green Campus Project and Directorate of Sustainable Tourism & University Hostels have planned significant initiatives for sustainable habitation within the campus for the

coming years. For this cause, the initial plan is developed for residential facilities within the campus, i.e., student hostels and faculty accommodations.
The following objectives are agreed upon:

1. Reduction in plastic use in the University in general and hostels in particular.
2. Promote individual utensils and water bottles to avoid sharing standard paraphernalia used in messes & canteens.
3. Become the first University to halt the use of polythene bags in messes & canteens of the University and replace them with paper bags.
4. Display the panaflexes in hostels with the message of environmental protection awareness and the role of individual contribution in reducing pollution.
5. Create awareness of food safety among messes and canteen contractors.
6. To promote Public awareness about greener & cleaner societal lifestyles through social media.

9 Green and Sustainable Procurement

Goals & Performance

Promote the initiatives for green and sustainable procurement and make sure that all goods and services procured by university should not have adverse environmental outcomes.

A university must have a green procurement policy to be green and sustainable. The environment policy 2022-2023 has approved that the IUB must follow the SOPs of green procurement. Green and sustainable procurement is a spending and investment policy linked to resource efficiency, climate change, social responsibility, and economic resilience.
Under this consideration, the IUB has been procuring the furniture from Interwood Mobel, which is SGS (SGS Hong Kong) certified, meeting the FSC (Forest Stewardship Council®) standards; the Company Purchasing the Material with FSC 100%, FSC Recycled, and FSC Mix Wooden Material.
FSC Standards are as under:

i. **FSC 100%:** all sourced materials of the labeled product come from FSC-certified forests.
ii. **FSC Recycled:** the materials used for the products are 100 percent recycled.
iii. **FSC Mix:** the product is made with materials from FSC-certified forests, recycled sources, and FSC-controlled wood.

According to the Head of Green Procurement, the IUB intends to shift furniture and building procuring towards 100% green and environment friendly in the next 01 to 05 years.

10 Food Sustainability

Goals & Performance

Promote the initiatives to minimize food wastage and sustainability in food consumption.
Promote the culture of food saving in food selection, cooking, and food usage, and promote the initiative to make all food points at the campus green food points.

Promote the initiatives to minimize food wastage and sustainability in food consumption.	
Promote a culture of food and plastic wastage control through eco-food festivals and social media campaigns.	
Sensitize IUB employees and students about the environmental consequences of plastic usage.	

Food waste contributes to environmental degradation, deterioration of public health, and socio-economic losses. According to FAO (2019), global food waste generation is about 1.3 billion tons annually. Spoilage of raw or cooked food is stimulated by 1) physical damage, 2) microbial contamination, 3) autolysis, and 4) pest attack.


Therefore, controlling food wastage by implementing food safety measures may improve the edible food supply, which will help meet SDG #2 of the UN. Moreover, controlling food spoilage factors may contribute to public health improvement, i.e., SDG # 3. Furthermore, since a huge amount of water is used in agriculture, preventing food wastage may reduce freshwater use, i.e., SDG #6. Finally, sustainable food consumption may contribute to SDG #12 of the UN. The goals and objectives for 2021–22 were achieved in the following steps.

1. Firstly, a food sustainability student team was established. Students were trained to achieve the aims and objectives of GCP regarding food wastage control.
2. SOPs for food wastage monitoring and quantification was developed.
3. Forms were developed for effective communication among related quarters of IUB that deal with catering and disposal, including DSA, Chief Warden, and estate care.
4. The second area we highlighted during the project was the lack of awareness among students, faculty, and staff. Science, Engineering, and DVM faculties conducted a systematic awareness campaign.
5. Data is necessary for making effective decisions. For this purpose, two routes were adopted. Firstly, a survey form was developed to observe the trends and patterns of food consumption, preferences, and reasons for food wastage. Secondarily, estate care was requested to provide access to the everyday food wastage quantity. Both failed.
6. Finally, three eco-food parties were arranged, targeting the minimization of the use of single-use plastic.

The problems faced during the achievement of the above points include

- lack of intent from concerned quarters of IUB,
- disestablishment of the food sustainability student team,
- unpredictable semester schedule,
- lack of appreciation for the food sustainability student team, and

- lack of funds.

Our goal for 2022–23 is to build on the above achievements and strengthen food sustainability in IUB. So, the following are our objectives:

1. Coordination will be strengthened with the major quarters of IUB related to food wastage control, including estate care, DSA, and Director DoST for implementing the SOPs of GCP regarding food wastage monitoring and quantification.
2. The faculty-wise awareness campaign will be continued. Follow-up campaigns will also be conducted, keeping in view the continuous induction of new faculty, staff, and students.
3. Training of cooking and serving staff will be done to ensure the implementation of SOPS of GCP related to food wastage control.
4. Strategies will be developed to establish an infrastructure for the reuse and recycling of meal leftovers for feeding to animals and birds.
5. Data will be collected from food consumers in IUB, and strategies will be developed to improve food sustainability status accordingly.
6. The arrangement of eco-parties will be continued.

11 Energy Usage

Goals & Performance

Optimize electricity consumed per head (kwh/time unit/ number persons).
Increase the amount of electricity generated/consumed from renewable energy sources in total electricity generated/consumed at campus
Optimize gas per head use, (CFT/ number of persons).
Promote energy-efficient electric compliance at the campus.
Promote the culture of energy conservation among IUB employees and students through social media campaigns
Sensitize IUB employees and students about the environmental consequences of misuse of energy

Due to a host of environmental problems, the energy sector is considered one of the most significant contributors to environmental degradation. Currently, 80% of global energy is produced through non-sustainable, most pollution-intensive modes, i.e., burning fossil fuels (coal, oil, and gas). Energy generated from coal, oil, and gas produces dangerous toxins and emits millions of tons of carbon dioxide into space annually. Due to the damaging impact on the future productivity of the earth, conventional fossil fuel energy resources have become under intense pressure.

IUB is a large public sector university with a high annual growth rate and, therefore, has a massive demand for energy to meet the usual operations of the campus. Besides the environmental damage, the university also bears the enormous financial cost of the energy. Therefore, the economic and ecological benefits can be ripened by implementing energy conservation strategies and using renewable energy resources instead of conventional sources. These two main targets are kept on high priority agenda in university sustainability policy.

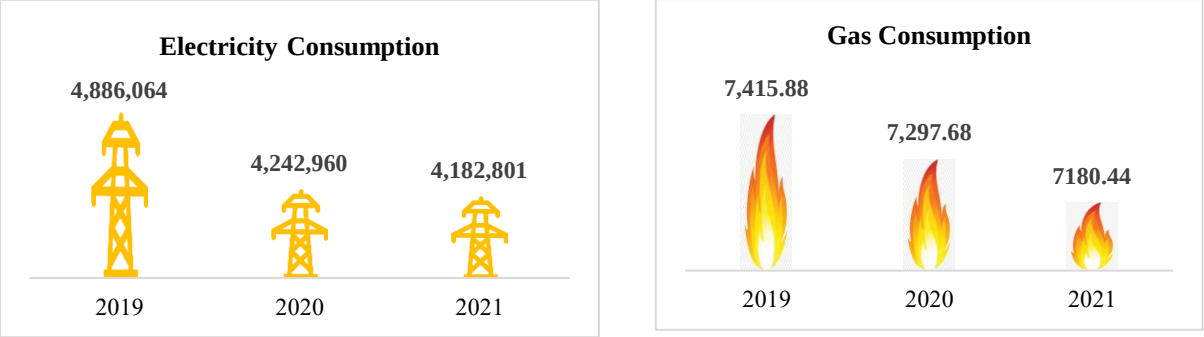


Figure: 4 Electricity and Gas consumption trends in years 2019, 2020 and 2021 at the IUB.

The report for electricity and gas consumption of the Islamia University of Bahawalpur campus has been prepared up to 2022. From the annual consumption details, it has been observed that the electricity and gas consumption of the Baghdad campus during the year 2019 was 4,886,064 kWh and 7,415.88 Hm^3 respectively, whereas it is 4,242,960 kWh and 7,297.68 Hm^3 during the year 2020. Now, this has been 4,182,801 kWh and 7,180.44 Hm^3 during the year 2022.

As per the statistics, campus of the IUB is very energy extensive. The university is paying a huge amount in lieu of utility bills. The statistics indicate a declining trend in electricity and gas consumption in IUB. The credit may go to energy conversation drives, induction of renewable energy, and load-shedding of gas.

The economic, as well as environmental benefits, therefore, can be ripened through implementing energy conservation strategies and using renewable energy resources instead of conventional sources.

Energy conservation plays a vital role in lessening energy consumption and therefore in reducing pollution. Energy conservation is often the most inexpensive solution to energy shortage, and it is a more environmentally kind solution. The motivations related to energy conservation include both economic and environmental. The benefits of energy conservation include reducing the risk of depletion of natural resources, construction of fewer power plants, boosting human health, mitigation of global warming, ensuring constant safe water supply, mitigation of habitat destruction, and maintaining steady prices of energy. The measures of energy conservation include the use of energy-efficient bulbs (LEDs), installation of light sensors, sun-proofing the building, replacement of conventional air conditioners with inverters,

plug leaks in room/building, consider using renewable energy resources and insulation of all ac rooms.

Under the regime of the current WVC, a2.5 MW solar energy project has started working that reduce nearly 20% of the dependency of IUB on fossil fuel. Moreover, the green campus: IUB program intends to start an effective energy conservation program in the coming years. In this regard improved surveillance system is under way to identify and control wasteful consumption of energy. Besides these, advanced technology for saving electricity within campus are also being implanted.

12 Water Usage

Goals & Performance

Optimize water consumption per liter per person and increase the share of recycled water in total water consumption at IUB	
Promote the culture of water conservation among IUB employees and students through social media campaigns	
Sensitize IUB employees and students about the environmental consequences of misuse of water	

The water scenario of Pakistan is very critical and complex as we are a nation of more than 220 million with a river-based water system located in a region where events related to climate change loom large. Moreover, most of the pivotal rivers flow from a disputed territory, and the issue of water conservation and judicious use has gained much more significance. The Baghdad ul Jadeed campus of the IUB is located along the Ahmad Pur East Branch, emerging from the Lal Sohanra headworks. This canal is the primary source of freshwater supply for irrigation and domestic consumption, as six turbines are installed to mine groundwater.

As an institute of higher education, IUB is deemed to lead the way in water planning and should act as a role model for other public and private entities. Yet, the layout of the water supply apparatus, irrigation system, selection of plant and tree species, and the management system for landscaping differs from the SOPs of water conservation and therefore adds to the financial crunch and environmental unsustainability. Moreover, the picture gets bleaker when turbines extract groundwater, and this ‘precious’ groundwater is then directed into open water channels to irrigate Conocarpus erectus and many other exotic species planted at the campus. This rampant wastage of water is contrary to the concept of water conservation in a Sustainable University.

The current regime has started many initiatives in this regard. For example, the worthy vice-chancellor has approved the installation of a water recycling plant in the university that will reduce the water footprint of the university. Moreover, under the Green Campus Project, a comprehensive program for water conservation is underway to change the water-using practices in the university. Recently one official from the water management department has been included in the Environment Management Committee (EMC) of the IUB for better water usage monitoring.

13 Transportation: Sustainable Mobility

Goals & Performance

Optimize the use of fuel per head by university administrative and per student	
Promote initiatives to minimize the use of vehicles and encourage walk and the use of bicycles on the campus.	✓
Promote car and motorcycle pooling employees and the students of the IUB	
Promote initiatives to utilize technology (i.e., algorithms) to identify roots with more students, heavy traffic, and other potential issues to rationalize the bus roots.	
Better methods of communicating transit-related information, such as bus tracking info on smartphone apps and improved signage at bus stops	
The schedule of teaching activities/classes/workshops so that students have maximum contact hours per day in the department, thereby optimizing their mobility.	✓
The policy of two teaching credit hours on campus and one online to optimize mobility.	✓

The transportation sector is the second largest contributor to polluting emissions in the world due to fossil fuel combustion. Therefore, a green and sustainable university must have a sustainable mobility model. At the Islamia University of Bahawalpur (IUB) , many students and employees commute daily to the university from the city and nearby towns. The university population has three groups: faculty, staff, and students and their mobility is governed by the schedule of academic activities of the university. The IUB has various types of fleets that are used to commute for faculty, staff and students. This daily transportation has a huge financial and environmental cost. As mentioned in performance matrix above, many measures started last year to optimize mobility and fuel combustion are under way. This year, one transportation official from the transportation department has also been included in the Environment Management Committee (EMC) of the IUB. This change in composition is expected to produce more effective results next year.

14 Students' Involvement and Training

Goals & Performance

To set up student societies to increase their involvement and training in environment and sustainability issues.	✓

One of the main objectives of sustainability is to engage all the stakeholders and act more than

mere plans. For this purpose, students can play the most critical role as leaders of change in the community. The University, therefore, has established numerous student societies for environmental action. These societies are meant to increase students' involvement and their training in environment and sustainability. Currently, seven societies are working on sustainability targets at the IUB. Agro-Industry and Environment Students Club, Soil Science Students Club, Zoology Students Club, Botany Students Club, IUB Environmental Protection Society and IUB Green Youth Movement Society. These societies not only involve and encourage their peers in environmentally responsible behaviours and initiatives but are responsible for arranging different events. Such as clean green campus drives, plantation campaigns, eco-food festivals, volunteer work in conferences and conducting seminars related to climate action. University has targeted to enhance its focus more toward this collaborative effort in the coming year. The plan for Water Conservation, Energy Conservation, and Plastic Waste Management Societies are underway in this connection. This will ensure the accomplishment of the goals of a sustainable campus through specialized efforts from the collective association of students.

Conclusions

A sustainable university has a clear vision, guidelines, targets, and commitment to manage its environmental issues. To further strengthen the University's sustainability program, IUB created and filled key positions for the Environment Management Committee (EMC) this year. Through the Green Campus initiative run by the University's EMC, a robust measurement program is in place for IUB's sustainability metrics that allow the University to build on existing programs and move forward with new initiatives. Finalizing and integrating the plans for energy efficiency and climate action into the daily operation for the University are ongoing and active tasks. The EMC is committed to delivering results by employing all resources at its disposal to achieve sustainability targets. IUB is the first higher education institution in the country to start this programme. As this programme will become deeply ingrained in the fabric of the university, it will have a culture of sustainability.

Words of Thanks

Thank you for your interest in The Islamia university's efforts to create a more sustainable campus and culture. We hope you have a better understanding of the breadth and depth the university's sustainability program covers and are inspired to act. Start by Joining the Challenge and working together we can make a positive contribution to a more sustainable future.

The Environment Management Committee (EMC) IUB.

Environment Management Committee (EMC)

Dr. Abid Rashid Gill

Director EMC & GCP IUB

Prof. Dr. Muhammad Atif

Head, Green Health Care System

(Advisory & Execution)

Dr. Areeba Khan

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Ms. Kalsoom Akhtar

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Dr. Muhammad Ayaz Mehmood

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