

Greening ULAB

Pioneering the Campus
Sustainability Program in Bangladesh

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This Book is produced based on quantitative and qualitative research conducted by Center for Sustainable Development (CSD), University of Liberal Arts Bangladesh (ULAB).

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Published: August 2017 in Bangladesh by

Center for Sustainable Development (CSD)

University of Liberal Arts Bangladesh (ULAB)

H# 56, R#4/A, Satmosjid Road, Dhanmondi, Dhaka-1209, Bangladesh

www.ulab.edu.bd/csd

National Library of Bangladesh cataloguing-in-publication data

A catalogue record of this book is available at the National Library of Bangladesh

ISBN: 978-984-34-2827-1

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Acknowledgement

First and foremost, we would like to express our sincere gratitude to Professor Imran Rahman, for being more than a supervisor of Greening ULAB program, for helping us to build up self confidence, and for having faith in us. His proposition and faith, made this report possible.

We are grateful to Professor Dr. Jahirul Huq, Vice Chancellor, University of Liberal Arts Bangladesh for his thoughtful suggestions and inspirations at every stage of this program.

It is a great pleasure to acknowledge our sincere and greatest gratitude to Ms. Marie-Pierre Arseneault, former deputy director of Center for Sustainable Development (CSD) for her untiring effort, careful supervision as a promoter of having a green campus program at ULAB. We would like to acknowledge Mr. Faruq Shahriar Isu and Ms. Shahnoor Hasan for planning and developing the “Greening ULAB” program.

We are indebted to all of our stakeholders for their continue support towards Greening ULAB activities.

We would like to express our thanks and best wishes for the green ambassadors who worked as volunteers during the data collection and also actively participate in all activities.

We are highly thankful to all the previous and present members of CSD for sharing knowledge and extending help in finishing this report. We are thankful to Mr. Kapil Roy for designing the report and Mr. Saleh Al Mahmud for all sorts of logistics for the work. We are indebted to Abu Sadat Md. Marjan Nur who guided the volunteers during preparing the baseline study. Heartfelt thanks to our research assistant Nusrat Jahan for her support in reviewing the report.

From start to finish, this project has been about teamwork. We have been researching leadership, and the authors want to acknowledge the incredible effort that all have given in leading this journey. As a team, we have shared our wisdom, skills, and voices, with each person stepping forward when such leadership towards sustainability was most needed. We have grown in knowledge of ourselves and within our discipline. In the end, our deepest thanks go to the board of trustees for supporting us in this monumental work.

List of Abbreviation

ULAB	University of Liberal Arts Bangladesh
CSD	Center for Sustainable Development
UNEP	United Nations Environment Program
EAUC	Environmental Association for Universities and Colleges
PVC	Polyvinyl Chloride
LED	Light-Emitting Diode
GED	General Education Department
SDG	Sustainable Development Goal
GHG	Green House Gas
CO ₂	Carbon Dioxide

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1. Introduction

Campus sustainability has become an issue of global concern due to the realization that the activities and operations of universities can have huge impact on sustainable development. Therefore, in today's world, environmental challenges are also being confronted by the universities like other organizations such as government institutions and municipalities. According to United Nations Environment Program (UNEP), a university can make unique contributions through research, teaching, outreach, and student initiatives in helping society to make a transition towards sustainability (1). In this context, campus sustainability is being considered as a continuous process where environmental sustainability practices are also incorporated (2).

Universities manifest sustainability in two ways i.e. curriculum and operations which are often seen as distinct but should be complementary. Mostly, the universities demonstrate to the public, staff, and students that they are responsible and willing to take the lead in creating a more sustainable tomorrow, and they are doing so in a way that benefits from the credibility of the university voice. In other words, universities have the ability to manifest sustainability – not only in theory, but in practice in everyday life of university campuses (3).

Further, universities have the opportunity to create cultures of sustainability for today's students, and to set their expectations viewing the world. At the same time, universities can create healthier, cleaner, safer, and more productive workplaces for university employees and students. In providing real-world examples of environmental, financial, and social successes, universities can inspire innovation and creative action in universities around the globe.

Even though there is no set way to organize campus sustainability, a structured initiative will shape the university's capacity for results and success. By establishing mechanisms to set goals, implementing activities to support those goals, and regularly reporting on progress, universities can create an example while they are training tomorrow's leaders (4). In general, campus sustainability adopts the concept of environmental sustainability which has three elements environmental, social and economic (Figure1) (5).

To include the campus sustainability culture at the university level, the University of Liberal Arts Bangladesh (ULAB) introduced the Greening ULAB initiative in 2014, first of its kind in Bangladesh, aimed at cultivating an energized and dynamic community of sustainability and integrating sustainability practices into teaching and research.

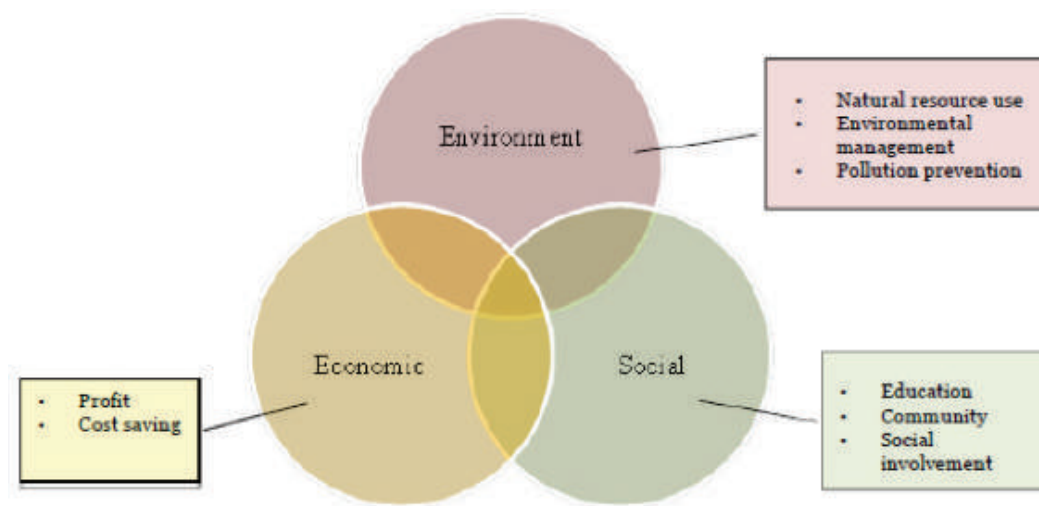


Figure 1: Elements of campus sustainability

2. ULAB as a First Client for Campus Sustainability in Bangladesh

2.1 About the University of Liberal Arts Bangladesh

The University of Liberal Arts Bangladesh is a leading private university dedicated to learning and teaching, research and engagement. The university community is made up of:

- More than 5000 students (approximately 4000 full time equivalents)
- Over 500 staff
- Over 10,000 alumni nationally and internationally

Our vision is to be one of the finest universities in Bangladesh that contributes to society in ways that enrich and transform lives. The Triple Helix is the organizing principle of the University's Strategic Plan 2017- 2023. The three pillars of the Triple Helix are –

- ❖ **Learning and Teaching:** The University offers learning that stimulates, challenges, and fulfils the potential of excellent students from around the world, leading to meaningful careers and profound contributions to society.
- ❖ **Research:** The University undertakes research and that addresses the major social, economic and environmental challenges of our time.
- ❖ **Engagement:** This is the binding strand within the Triple Helix, enriching our teaching and research and deepening our contribution to a wider society.

ULAB goes green is recognized as an organizing principle for decisions about the future of the university and as a private-spirited institution, enabling us to create positive contributions to society.



2.2 Our sustainability collaborations

The University of Liberal Arts Bangladesh is a member of “The Environmental Association for Universities and Colleges (EAUC). The EAUC is the environmental and sustainability champion within Further and Higher Education in the UK which was launched in 1996 with the aim of raising the profile of environmental management and facilitating improvement of environmental performance in member institutions (6). This initiative enables us to leverage our influence and drive collective action on sustainability.

2.3 How we set our greening agenda

ULAB believes sustainability depends on financial resilience, strong leadership and management, an engaged workforce and the successful alignment of teaching, research and engagement. It means having responsible institutional practices that consider and address the environmental, social and economic impacts of our strategies and operations. Sustainability is about maximizing our positive impacts and influence on society.



Greening ULAB is a fruitful illustration of ensuring campus sustainability. In fact, the GO Green program as a part of the organizing principle of the University’s Strategic Plan 2017- 2023 sets out our aspiration to be recognized as a leader in embedding sustainability in all aspects of research, teaching and learning, engagement, operations and governance. This informs the values of the University and is reflected in our work.

Our greening ULAB commitments are enshrined in the campus sustainability which was launched on June 26, 2014. It is an enduring statement of the University’s sustainability values and principles that applies to all our activities.

Our Vice-Chancellor is the University’s chief executive officer. The Chancellery supports the realization of Growing Green’s vision and objectives for learning and teaching, academic performance and engagement. This includes the vision for sustainability.

The Director of Center for Sustainable Development (CSD) has overall accountability for the University’s greening approach. This office leads the university-wide governance and strategy development of sustainability.

The Green Ambassadors provide the leading endeavor to deliver the University's greening agenda. This group is made up of a few passionate and enterprising students from different departments. It is chaired by a faculty of CSD. Beside this, the executive committee of the Sustainable Development Club is also included with the Go Green activities. The green ambassadors and the Sustainable Development Club organize regular activities on achieving greening ULAB.

The team implements the University's commitments to reduce use of resources, manages sustainability projects on campus and engages students, staff and the community on Go Green issues. The team's main goal is to drive better operational performance to enable the University to be a global leader in campus sustainability.

We are in the process of renewing our approach of going green to cover all our operations and engagements. The sustainability plan 2017-2023 is currently being shaped by input from our entire University community.

2.4 Our goals

Recently the campus has set out its new goals according to ULAB- Strategic Plan 2017- 2023 which is as followed (Figure2)

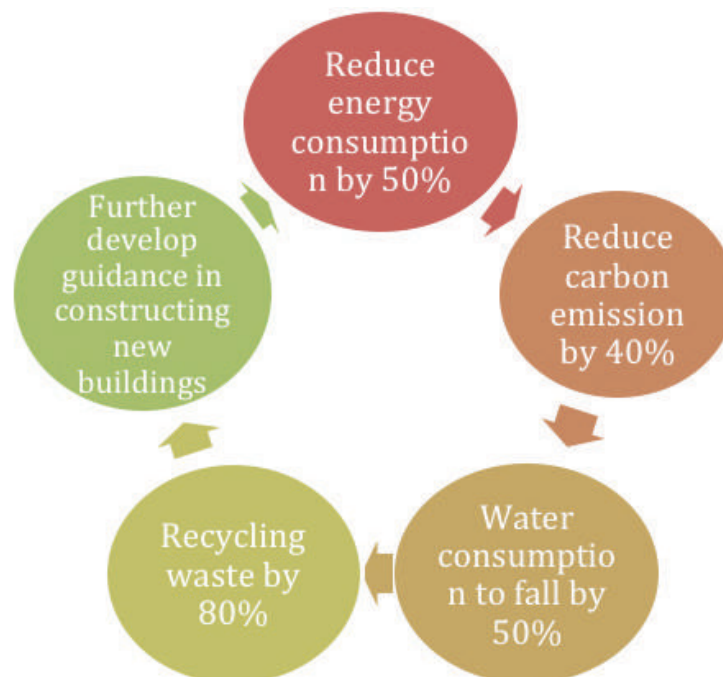


Figure 2: ULAB's goals towards Go Green

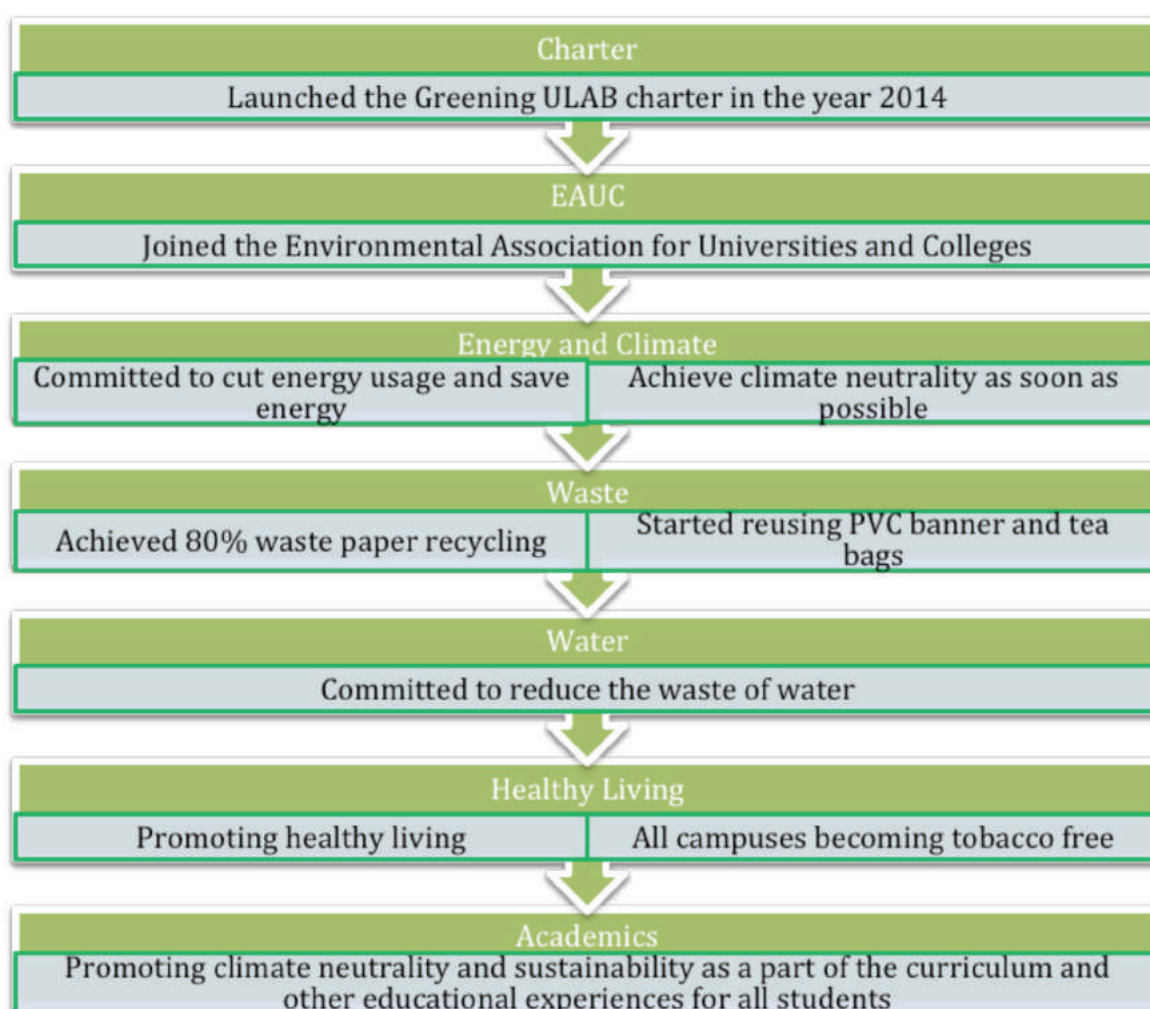
The goal includes the following:

- Demonstrating sustainability leadership
- Embedding sustainability in the curriculum, translating research into practice for business and the wider community, and using the campus as a laboratory for our transition to a green campus.
- Engaging staff, students and other stakeholders in Greening ULAB Charter and on- campus initiatives

We want that energy and passion to be visible within staff, students and the community so that they can identify key goals and set the greening agenda.

2.5 Our greening performance – An overview

This report showcases the university's holistic greening performance for 2015. It follows wide consultation with our staff, students and community on our Greening ULAB charter and discusses the importance of implementing greening activities at campus.



3. Greening ULAB report in context

3.1 How to read this report

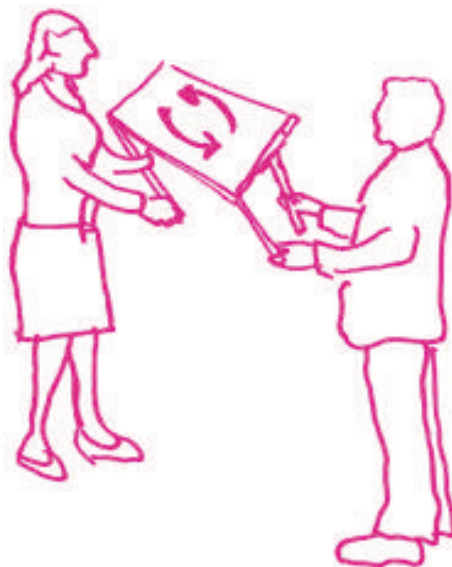
The report provides a summary of ULAB's progress toward its Go Green activities. It contains data, graphs, pictures and stories – all compiled to share our work in the past year which will help readers to understand the relevance and context of this work.

The focus of the report is on activities done in calendar year 2015. The University's Strategic Plan sets out the vision for the University of Liberal Arts Bangladesh to be recognized as a leader in embedding sustainability in all aspects of our operations, teaching and learning, research, engagement and governance. This report tracks our progress against this aim and intends to share some of the interesting stories of the daily work to improve our campus operations, engage our students and staffs, and to accelerate our progress.

We are committed to improving our data systems so that we can capture our most significant impacts in future reports. This will help the university achieving persistent improvement on its performance, targets fulfillment and transition to sustainable future.

3.2 Our stakeholders and the report

The university stakeholders, the university's senior authorities, students, staffs and faculties, are passionate about greening ULAB activities. ULAB believes - the overall efforts of all stakeholders can fulfill the target of Go Green. So, the university is committed to accept suggestions of all stakeholders so that they can also be the part of decision making on sustainability. In preparing this report, we asked our stakeholders about the importance of Go Green activities. To move forward, the Go Green program thinks of engaging more stakeholders through social media to enhance future activities. Besides, the alumni will also be incorporated in a more visible way. And, all this engagement will be documented in future reports.



3.3 Base year

The establishing of a base year is an important aspect in the reporting process. It defines the starting point from which the development of a robust and organizationally specific report can be produced. It enables a clear and direct comparison to other reporting periods, and it maintains a meaningful and consistent evaluation of emissions over time (7). As we collected our energy and water related data from 2015, that would be our base year to show our result.

4. Operations

4.1 Greening ULAB



Inspired by UNEP's campus sustainability mandate, the University of Liberal Arts Bangladesh (ULAB) developed liberal arts based curricula and quality academic research. Ms. Marie-Pierre Arseneault, former Deputy Director, Center for Sustainable Development (CSD), ULAB, first thought of having a green campus program here at ULAB. Later in 2013, Mr. Faruq Shahriar Isu, former Assistant Operations Coordinator, CSD and Ms Shahnoor Hasan, Senior Lecturer cum Research Associate, CSD, planned and developed the program named '**Greening ULAB**' with wholehearted support from the University management.

4.2 The Launching of Greening ULAB

In April 2014, the action plan of Greening ULAB was presented at the 1st Regional Conference on Campus Sustainability held at the University Malaysia Sabah. At the conference, Greening ULAB received accolades, especially for its programs on energy conservation



and waste recycling from the regional and global campus sustainability leaders. The poster presented at the conference was adjudged as one of the top 5 posters out of the 37 ones presented.

The program was later launched on June 26, 2014. On the day Greening ULAB was launched, the University handed over approximately 2 metric tons of waste paper and paper materials to Bashundhara Paper Mill Ltd for recycling. Earlier, the bulk of the collected amount was managed through controlled burning which incurred cost of transportation and labor, along with the associated air pollution.

The launching program drew attention of other private universities, students clubs, NGOs and the national media for promoting sustainable education and socio-environmental behavior. News of greening ULAB has been published in local print and electronic media.

4.3 Re-launching Greening ULAB

In order to disseminate the actions of Go Green activities with all the new students 'Greening ULAB' was re-launched at 10th August, 2016. Dr. A Atiq Rahman, Executive Director of Bangladesh Centre for Advance Studies (BCAS) along with VC and Director of CSD inaugurated the re-launching program

4.4 Remarkable Success Stories

4.4.1 Energy story

A target has been set to reduce the overall energy consumption in classrooms. After analyzing the current practice of energy use (i.e. electricity bills, baseline surveys, etc), several action plans have been chalked out. An awareness campaign

titled "SWITCH OFF when NOT in USE" has been launched out. Informative notes and illustrations have been put up in both campuses. A group of eleven students have been trained to act as 'Green Ambassadors' alongside of the supportive staff. Energy Conservation Measures consider the minimal use of lighting, AC, projectors, printers, desktops, sound systems during several programs and water pumps. Based on the already implemented awareness raising activities, progress has been noticed in energy conservation.





4.4.2 Spotlight on Energy Management

The university has implemented an energy reduction program since 2015. This program implemented with the help of Green Ambassadors, is now delivering annual reductions of electricity cost. Reduction of energy consumption indicates the reduction of CO₂ emission of ULAB. This program was implemented across all campus and offices. In future, under this program, LED lighting will be installed in many of our campus rooms. Already a few research centers like CSD and CES are using LED lights.



The graphs mentioned below is showing the annual amount of carbon emissions for campus A and B, in the year 2015 and 2016

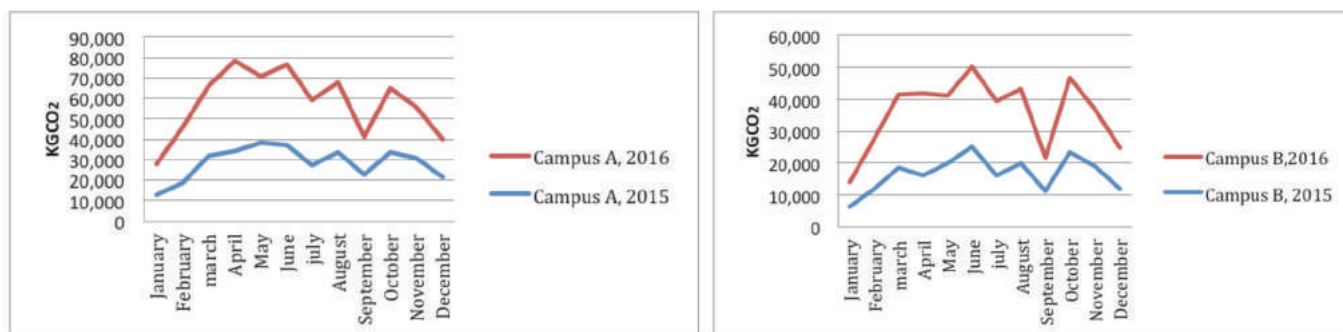


Figure 3: Total annual carbon emissions for campus A & B for the year 2015 and 2016

Previous graphs show that carbon dioxide emission for both of the campuses has increased. However, these increased trends of Carbon dioxide showed in the above graphs are not matter of concern because numbers of students are always increasing at ULAB. Besides, along with the increased number of students, the number of permanent and adjunct faculties has also increased. To accommodate these increased population more spaces for office and classroom were required which led to more energy consumption and thus the carbon emission has increased. The appendix II and III will show the increase number of Carbon dioxide.

What will we do?

We will reduce our energy wastage even more by the following activities:

- Review our Carbon Management strategy through external audit
- Roll out the Energy Efficiency Monitoring and will try to introduce renewable energy sources for reducing a minimum level dependency on grid electricity.
- Continue to install LED lighting systems and review opportunities in partnership with external industries which produces energy efficiency electric equipments.





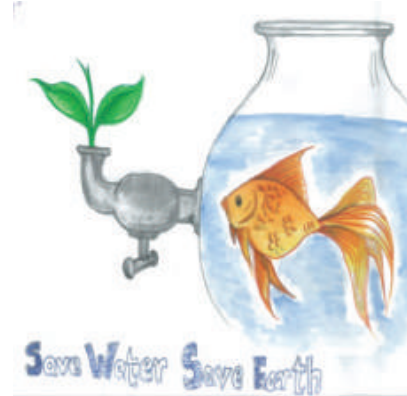
4.4.3 Water Management

University requires water for many purposes - from washrooms and kitchenettes to catering and cleaning. Further, significant amounts of water are also needed in the university canteen, and



for watering plants. To reduce the water misuse, ULAB introduced water conservation strategies which include improving of fixtures and aging equipments, rationing water usages during water shortage. Besides, the university took initiative to reduce an indicative amount of water consumption through creating awareness across the campus. This saved an equivalent of 309 m³ mineral water bottles (Appendix V and VI). It is

assumed that this improvement in water use efficiency was possible through behavioral change. Since, water is an increasingly scarce resource in Dhaka, and there is a possibility that the cost of water will likely rise in the future, due to increasing demand for water nationally, water maintenance and treatment, the water management initiative taken by ULAB will be a great step for sustainable development.



What will we do?

We will reduce our wastage of water even more by the following activities:

- Continue to roll out our Water Management strategy
- Prioritize water efficiency in buildings that use lots of water
- Identify leaks in the supply line of kitchen and toilets

4.4.4 Waste Recycling and Reuse



The University sets an ambitious target to increase the recycled percentage of waste to 80% between 2017 and 2023. The green ambassador team engages the entire campus community through recycling and waste management programs in efforts to reduce waste to landfill. The University currently has conducted recycling programs for mixed recyclables (including paper, cardboard, newspaper, magazines, and books), furniture, e-waste, IT equipment, fluorescent tubes. A mini bin system is placed at all workstations so that the staffs can systematically reduce waste and increase the amount of recycling. The furniture and equipment re-use program have also come to light since 2015.

To promote behavioral change two different colored bins - red (i.e. for plastic and glass) and green (i.e. for organic and biodegradable) - have been placed at the lobbies of both campus A and B to sort out the non-biodegradables and biodegradables materials. In this regard, display notices/illustrations for proper segregation have also been available in few places.

Through these initiatives, a recycling rate of 50% has been achieved which is an encouraging result.



4.4.5 Spotlight on composting

A small-scale compost plant has been set up on the rooftop of campus B. At present, only discarded tea bags are used to make compost. Using the basic, available resources, 19 kg 600 grams of used tea bags have been used to produce an approximate of 9 kg 240 grams of dry weight compost by the end of 2014. The compost has been applied to the indoor and rooftop plants in ULAB. The campus is striving to meet ULAB system's aggressive goal of reducing 80% waste by 2023. We'll continue to expand reuse schemes across the University and encourage an increasing number of staff and students to use these schemes.



4.4.6 First University to conduct to paper recycling project

The departments and administration offices collect the reused and/or recyclable papers and send the bulk to the Greening ULAB storage located in the Annex 1 building. Two paper collection boxes have been placed at the lobbies of both campus A and B. These boxes contain separate chambers for storing the brown and white papers separately. Students are also encouraged to give away their used paper. The collected paper and paper



materials (i.e. old calendars, tissue boxes etc.) are later sent to unit 2 of Bashundhara paper mill limited (BPML) to produce new paper through recycling. BPML usually sends collection van to collect the papers on the last Thursday of every month. With active cooperation from the registrar's office and Mr. Ershad Uddin Ahmed, Senior Manager, Admin, more than 2 tons of paper and paper materials have been recycled till December 2015.

4.4.7 PVC Banner and Plastic Recycling



Banners are made of a variety of polymers, the most common of which, reinforced PVC (scrim banner media) has been called the “poison plastic” by environmental groups due to the environmental effect of its production, use and disposal. Every year hundreds of banners are printed in our campus, used for a period and then discarded, filling landfills with millions of cubic feet of waste. As recycling has taken hold in virtually every

other area of industrial and consumer waste, we started to recycle PVC banner too.

Bags – Bags aren't limited to traditional market bags. We made messenger bags, makeup bags, computer bags, lunch bags, and large marketing bags.

Wall art – Hanging a banner on a wall, outdoor privacy fence, or garage would add color to drab walls and fences. Cut out part of a banner and framing it on a wall in a unique at home or workspace looks nice. We prepared a few wall art by cutting PVC banners.

Donate them – Local artist and schools can use the material for projects. We donated few banners to some social organizations that run street school for the underprivileged.

What will we do?

We will continue to implement waste management strategy:

- Continue to roll out the University Waste Management Strategy across departments through the Green Ambassadors Waste Management strategy
- Continue to expand reuse schemes across the University and encourage an increasing number of staff and students

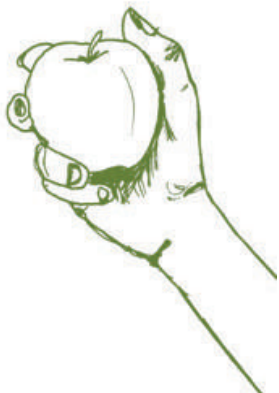
4.4.8 Environmental Art workshop

We also arranged an environmental art workshop in order to explain the creative potential of non-traditional re-usable materials. We inspire our students through eco-conscious art projects and also teach them how to make environmentally sustainable choices as an artist and citizen.



4.4.9 Healthy Living

ULAB runs a canteen for the students which provide fresh, local, healthy, environmentally sustainable and ethically produced food at affordable prices to the campus. Campus vendors continue to show leadership in their percentage of purchasing sustainable food. ULAB has also a food and nutrition club and the club contributes to creating awareness by promoting events on healthy food habit. At the same time we offer a course, organic farming to the students. This course involves the students in the identification of problems regarding conventional farming, chemical hazards, analyzing the situations and planning further steps to initiate organic farming. It helps the students create knowledge base and exploring knowledge on ecological agriculture. After completion of the course, students will generate /explore alternatives for chemical farming.



What will we do?

We will continue to implement healthy living strategy:

- Expand and improve cycle parking in the University premises or parking area.
- Create a sustainable food policy. This policy considers three key areas that relate to University-owned shops and cafes, on-site food production and communication of information.

5. Engagement

5.1 Academics & Learning by Doing



ULAB offers a wide range of degree, course and service learning options, which allow students to increase their understanding of the complex issue of sustainability. Our cutting-edge research contributes to find solutions for existing problems and expands learning outcomes. Various kinds of research and class projects help the students to connect their classroom knowledge to the real world.

5.2 Academic Goals

- Make climate neutrality and sustainability a part of the curriculum and other educational experience for all students
- Expand research or other efforts necessary to achieve climate neutrality as soon as possible
- Educate our students to be the leaders of tomorrow through our active and demonstrative pursuit of the campus sustainability goals

5.3 Translating Research

The University's innovation agenda encourages collaborations and innovations in industries, technologies, public policy and services informed by outstanding research. ULAB aspires to create research that is accessible, practical and outcome focused. This enables us to develop research that is valuable for and valued by the community.

The University is building new pathways to external collaborations and partnerships through an enhanced business development capacity and other activities like collaborative research with different development agencies. The University has one of the largest academic cohorts focused on

Asia and a long history of engagement in the region and works globally to drive research quality and sustainability outcomes.

5.4 Documenting Sustainability Courses and Research

Our core mission-of teaching, research and public service provides an opportunity to use the campus as a research and learning laboratory for sustainability. ULAB offers near about eight courses that are directly related to sustainable development goals agenda-2030. Center for Sustainable Development (CSD) is offering all of these courses under the General Education Department (GED). Students from different departments are willingly taking these courses to



raise their knowledge of achieving SDG goals. These courses are offered into two main types: core and elective. Both these courses are already built into every undergraduate programme. Students get current information about sustainable lifestyles and livelihood, interrelation of sustainability with society, impact of climate change and adapting to it through active participation with different activities i.e. lectures, report writing, case study analysis, field visit, workshop and seminar.

5.4.1 GED 205: Introduction to Sustainable Development

This course introduces students to the origins, issues and processes of sustainable development (SD). It examines the current global and national issues and debates surrounding SD. It involves the students in the analysis of the problems including anthropogenic climate change in the current context. This course also critically addresses other relevant SD issues including scarcity of resources, natural disaster, food insecurity, and energy crisis. After these, the course will discuss some alternative ways (those are possibly, more sustainable) to introduce the basis of the different perceptions of sustainable development.

5.4.2 GED 217: Introduction to Climate Change Debate

The course provides a basic understanding of climate system, current trends in global climate change and its impacts on environment and economy, and the real debates over global warming and climate change. Initially in the course, fundamental science of climate change, and the possible impacts and key vulnerable areas will be reviewed. Gradually, options for mitigation and adaptation, climate change policy issues and the on-going global debate will be explored. This course draws heavily on the findings from the most recent Intergovernmental Panel on Climate Change reports, Sustainable Development Goals and consists of a mixture of lectures, discussions, and self-directed exploration of online and published climate change issues.

5.4.3 GED 227: Biodiversity and Nature Conservation

The course involves the students in the identification of problems regarding desertification, analyzing the situations and for next steps planning. It helps the students for creating knowledge base and exploring new ideas insight it. After completion of the course, students will generate /explore new approaches for creation of biodiversity and nature conservation.

6. Communication

Sustainability is a journey, and in order to make progress along the journey towards climate neutrality we must continually engage both the campus and local community to rally support, celebrate success and build momentum for continued progress (8). Engagement is a key part of work around sustainability at the University (9). University has run three engagement programs: Student Switch Off, segregating waste disposal at the designated bin and both sided printing. Around this core, there is also a growing program of training and events for students and staffs.



6.1 Sharing information

Central environmental sustainability information is communicated in a number of ways to all our stakeholders.

Stakeholder	Method of Engagement/Communication
Undergraduate and Graduate Students	• Student switch off, Green ambassadors • Social media • University website • Events, workshop and training • Newsletter, flyer, booklet
Staff	• University website • Forums and conferences • Social media • Presentations and training • Meetings and groups
Local Community	• Social media • Events, workshop • Guest lectures • Website
International community	• Social media • Website • Case studies • Articles • Newsletter • Group/meeting memberships
Alumni	• Social media • Website

Table 1: Way of sharing information with the stakeholders

The university engages with industry, community and government to create innovative solutions to sustainability challenges. Our people come together with neighborhoods around our campuses (10). We build the resilience of future cities and communities by fostering deep ties with communities.

The University engages in a range of community and cultural partnerships to address the sustainability challenges that face local communities. Every semester group of students from different co curricular clubs organizes community services for the underprivileged.

6.2 Spotlight on the perception of internal stakeholders

A baseline survey has been carried out to understand the perception of internal stakeholders about Greening ULAB approach. We asked our internal stakeholders about their idea of Greening ULAB, their willingness on participation of sustainable activities. The result from the survey showed a success in the behavioral change of the staffs and faculties in order to achieve the target of the Green campus. A few results of the survey are mentioned in the next page.

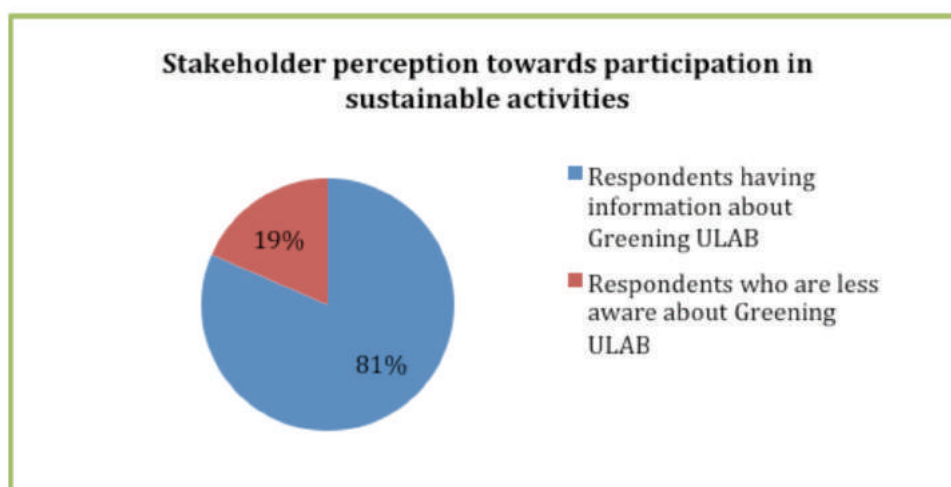


Figure 4: Perception of internal stakeholders about the sustainability activities

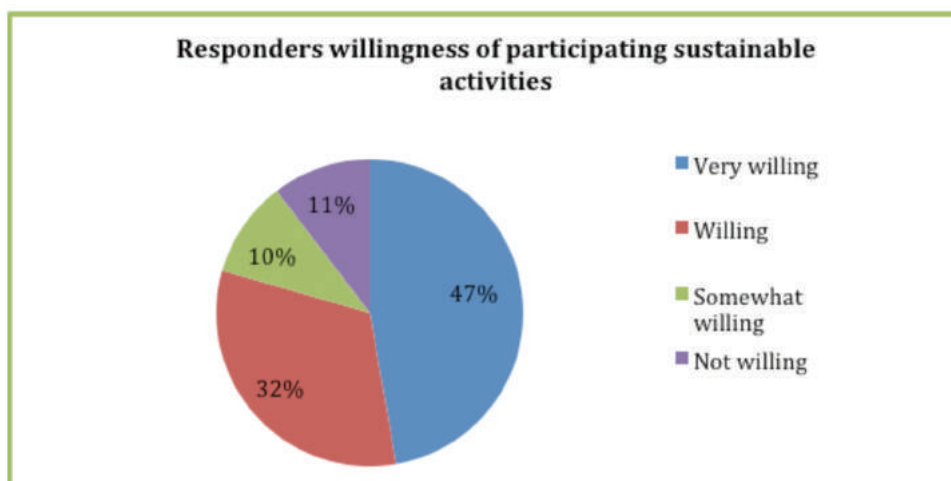


Figure 5: Willingness of participating Greening ULAB project

Then again, we asked our stakeholders about the impact of workshop, events, courses, flyers and leaflets for their motivation towards campus sustainability. The graph mentioned below is showing their concerns.

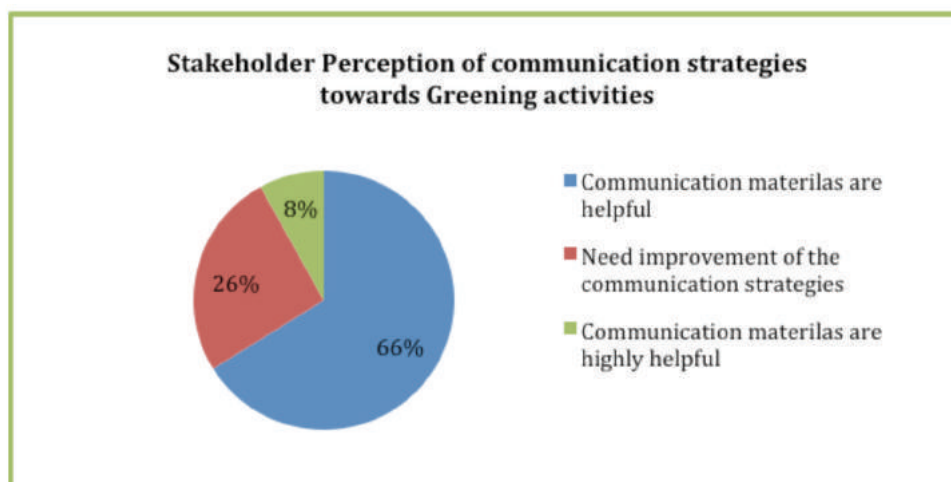


Figure 6: Stakeholder perception on different communication strategies towards the motivation of greening activities

Further, we asked our colleagues about their present behaviors on turning off and unplugging electronic devices while they do not use it. It is found that they are now contributing to the energy saving campaign by keeping their electronic devices (printer, laptop, desktop, mobile phones, and scanner) off or by unplugging.

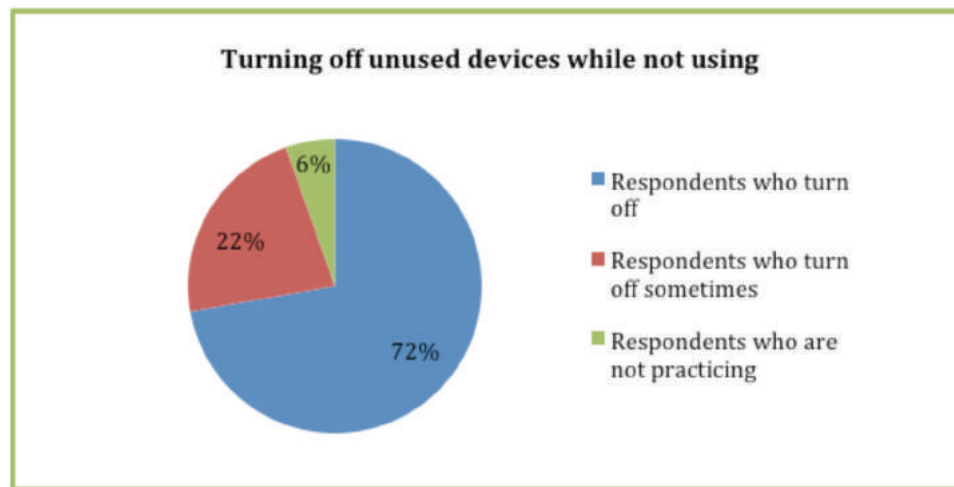


Figure 7: Turning off unused devices while not using

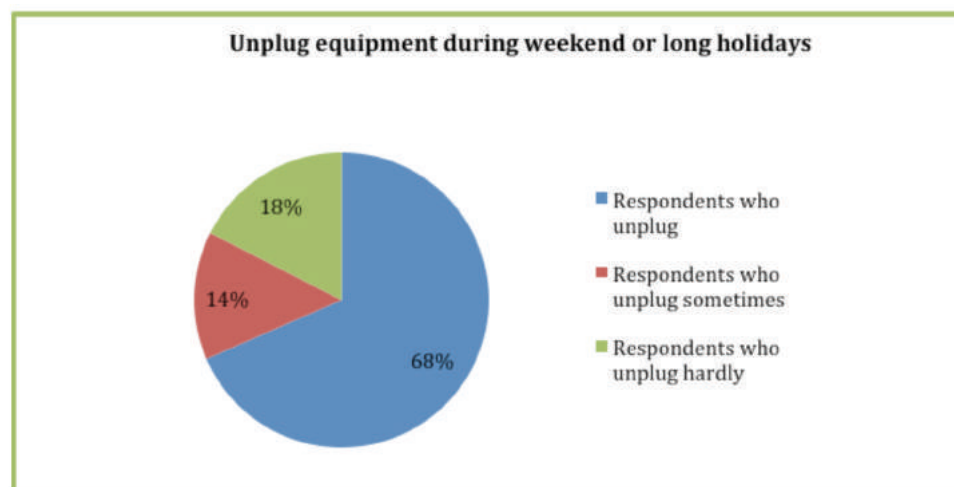


Figure 8: Unplugging equipment during weekend or long holidays

At the same time, as a part of waste management campaign, e-copies of documents for the meetings are introduced in order to reduce paper consumption. Whenever there is a need of doing printing, we rely on both sided printing to avoid excessive paper wastes. The following graph shows the present situation of our colleagues who are now enthusiastically participating in the campaign.

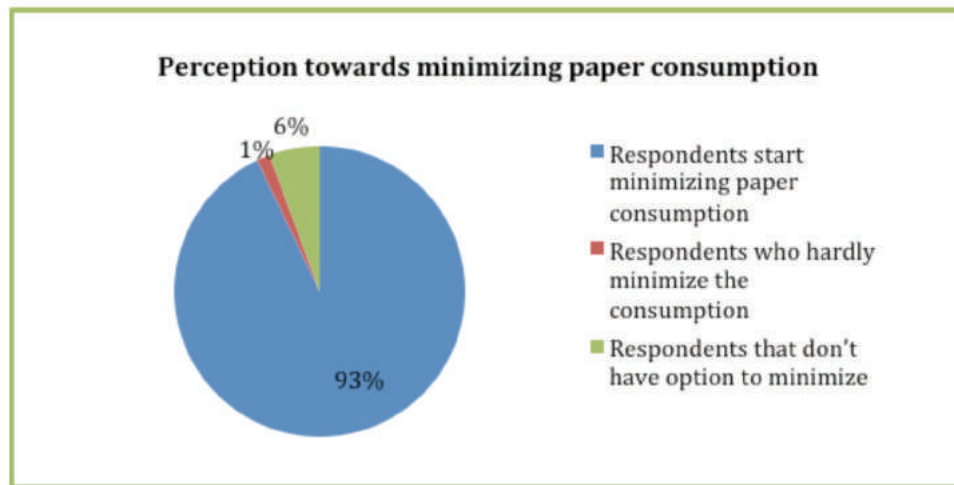


Figure 9: Perception of minimizing paper consumption

Subsequently, we asked our colleagues regarding their action towards reducing food waste (Figure 10). As part of waste minimization we took adequate measures to reduce food waste because when we scrape off our dishes after a large meal, we are too full to finish the remaining scraps on our plate, we rarely pause and think about the significance of our action and waste a large amount of food.

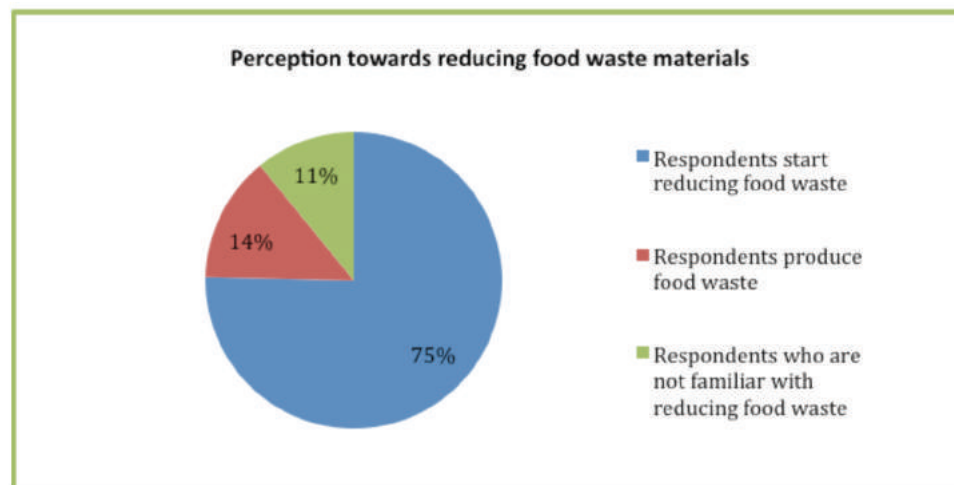


Figure 10: Stakeholder Perception of reducing food waste materials

Besides, we created an awareness raising program on identifying recycle material for future concern. The graph showed in the next page is representing the stakeholders idea of identifying recycle material.

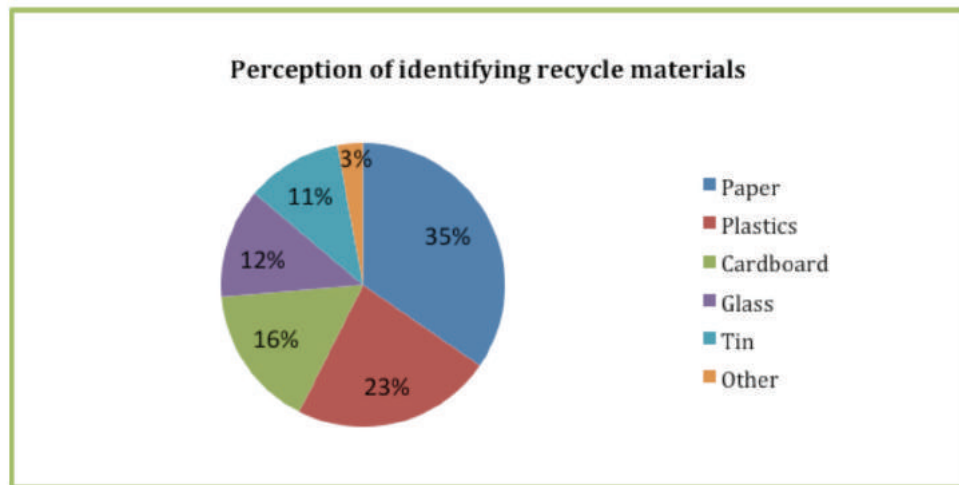


Figure 11: Stakeholder idea about identifying recycles materials



“A healthy outside starts from the inside” – Robert Ulrich

7. Conclusion

This report has been a showcase of our sustainability activities for the past few years. The campus sustainability program of ULAB is basically based on four pillars - Energy, Water, Waste management and Healthy living. These activities mainly focus on reducing unwise and over use of resources through providing information about sustainability performance to campus users. Thus, as a part of these sustainability activities, ULAB has already started creating awareness on conserving energy and water through green ambassadors. Besides, it has started recycling the used papers. This sustainability assessment indicates that University of Liberal Arts Bangladesh, as a first client of campus sustainability in Bangladesh, has excelled in some areas. Though some inadequacies remain in few cases, the university is trying to overcome them through better management.

In particular, ULAB's future destination regarding campus sustainability program is to put a remarkable footprint in achieving Sustainable Development Goal 4 (ensuring quality education) and Sustainable Development Goal 11 (create sustainable cities and communities). ULAB believes that the way Greening ULAB program is forwarding now, it will help ULAB to achieve its goal and contribute to create a sustainable world.



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Appendix I

Online questionnaire survey to understand the perception of internal staffs about green activities

Questionnaire				
1. Which one is applicable for you?				
I. Faculty		II. Admin		
2. What is your gender?				
I. Male		II. Female		III. Others
3. What is your office location?				
I. Campus A		II. Campus B	III. Obosor Bhaban	IV. Annex 1 V. Annex 2
4. Have you heard about Greening ULAB program?				
I. Yes		II. No		
5. How concern are you about the environmental issues?				
I. Very concern		II. Somewhat concern	III. Concern	IV. Not concern
6. How willing are you to participate in sustainability activities on campus?				
I. Very willing		II. Somewhat willing	III. Wiling	IV. Not willing
7. My concern towards environmental issues has grown due to the events, activities and/or courses offered by my university (such as Greening ULAB events)				
I. Strongly disagree		II. Disagree	III. Agree	IV. Strongly agree
8. Which of the following sustainability efforts can be implemented in your campus?				
I. Waste reduction		II. Energy conservation	III. Grounds improvement	IV. Climate action
9.	I turn off unused electrical equipment whenever I am away from office for classes, long meetings and lunch	I.	Yes	
II.		No		
III.		Sometimes		
10.	I unplug equipment like computers, printers and drinking water dispensers before weekend or long holidays to save energy consumption in standby mode	I.	Yes	
II.		No		
III.		Sometimes		
11.	I try my best to reduce paper use by making good use of emails.	I.	Yes	
II.		No		

12.	When unable to avoid printing hardcopies, I do double sided printing/copying or reuse paper that has text on one side, whenever appropriate	I.	Yes
		II.	No
		III.	I will follow in future

13.	I send and use e-copies of agenda and minutes for our meetings, whenever possible/appropriate	I.	Yes
		II.	No

14.	I know and I keep recyclable paper in a separate container	I.	Yes
		II.	No

15.	I use adequate measure to reduce food waste during an event	I.	Yes
		II.	No
		III.	I will follow in future

16.	How well informed you are regarding recycling at the university?	I.	Well informed
		II.	Somewhat informed
		III.	Uninformed

17. What materials do you think recyclable from bins from your building?			
I.	Paper	II.	Cardboard
III.	Plastic	IV.	Glass

18. What would motivate you to take part making campus more sustainable?			
I.	Training	II.	Events
III.	Leaflets	IV.	Others

Appendix II

Carbon dioxide emissions from grid electricity usage in Campus A and B, 2015

Campus A

Month	Consumption	Emissions (KGCO ₂)
January	19,758	12,645
February	29,010	18,566
March	49,482	31,668
April	53,538	34,264
May	59,812	38,279
June	58,008	37,125
July	42,150	26,976
August	52,806	33,795
September	35,664	22,824
October	52,812	33,799
November	47,964	30,696
December	33,822	21,646
total	534,826	342,283

Campus B

Month	Consumption	Emissions(KGCO ₂)
January	10,000	6,400
February	19,000	12,160
March	29,000	18,560
April	25,000	16,000
May	31,000	19,840
June	39,400	25,216
July	25,130	16,083
August	31,400	20,096
September	17,400	11,136
October	36,540	23,385
November	29,550	18,912
December	18,840	12,057
total	312,260	199,845

Appendix III

Carbon dioxide emissions from grid electricity usage for Campus A and B, 2016

Campus A

Month	Consumption	Emissions(KGCO ₂)
January	22,956	14,691
February	41,598	26,622
March	53,664	34,344
April	68,292	43,706
May	50,082	32,052
June	61,122	39,118
July	49,464	31,656
August	52,884	33,845
September	27,636	17,687
October	48,162	30,823
November	38,772	24,814
December	27,942	17,882
Total	542,574	347,280

Campus B

Month	Consumption	Emissions(KGCO ₂)
January	11,960	7,481
February	24,160	15,462
March	35,970	23,020
April	40,480	25,907
May	33,360	21,350
June	39,050	24,992
July	36,330	23,251
August	36,220	23,180
September	16,730	10,707
October	36,510	23,366
November	38,772	17,606
December	27,942	12,729
Total	341,264	229,051

Appendix IV

Water consumption for campus A and B, 2015

	Campus A	Campus B
Month	Consumption (m ₃)	Consumption (m ₃)
January	1085	1556
February	980	1405
March	1085	1556
April	1850	1506
May	1085	1556
June	1050	1506
July	1085	1556
August	1085	1556
September	1050	1506
October	1085	1556
November	1050	1506
December	1085	1556
Total	13,575	18,321

Appendix V

Water consumption for campus A and B, 2016

	Campus A	Campus B
Month	Consumption (m ₃)	Consumption (m ₃)
January	1085	1558
February	1015	1455
March	1085	1556
April	1050	1506
May	1085	1556
June	1050	1506
July	1085	1556
August	1085	1506
September	1085	1556
October	1050	1506
November	1085	1556
December	1506	1506
Total	13,266	18,323



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