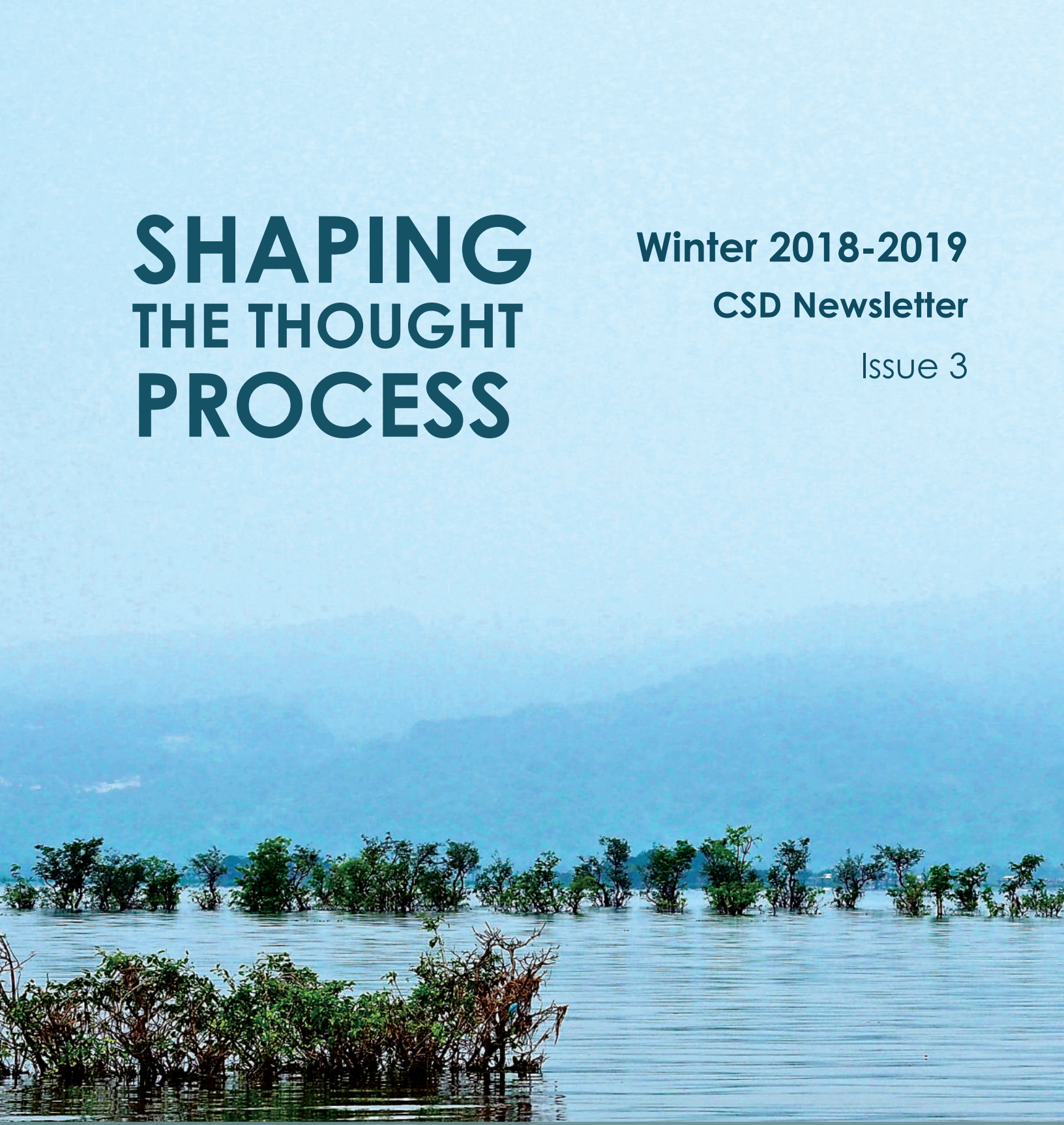
# SHAPING THE THOUGHT PROCESS

**Winter 2018-2019**

**CSD Newsletter**

Issue 3



CSD Center for Sustainable Development

ULAB University of Liberal Arts Bangladesh

# *Inside this Issue*

# MESSAGE FROM THE DIRECTOR

## Thoughts on Integration of Sustainability into the Mainstream: A Reflection on 2018


As 2018 comes to an end, I reflect back on the successes and challenges faced by individuals, organizations, and the communities which I work with, and who are trying to build a more sustainable and equitable society. Some of the questions we have tried to address here at the CSD this year are - *What are some of the pathways towards building sustainable cities and communities?, How do we inspire the youth to lead sustainable lifestyles where they can make conscious informed decisions on what they consume?*, and *How do we make policy changes that encourage businesses to adopt sustainable production?*

This task is more urgent now with the need to cut carbon emissions as fast as possible and on the largest possible scale in the next 12 years before the global limit of 1.5°C is reached and climate change becomes irreversible. At the same time, published research has shown that no part of this earth is free of plastic debris and the impacts of this is highly damaging to both wildlife and human health. In this age of anthropocene, our unsustainable (and unequal) heavy global footprint on earth might be at an all time high. Yet, rather than go into aspects of this topic which focus solely on challenges and negative impacts, this volume of the CSD newsletter will focus on the successful and innovative sustainability initiatives and research happening here at our research institute.

I wanted to highlight a few of the key lessons we have learnt from the different strands of work, partnerships and projects which we hope will continue to contribute to the journey of transitioning to sustainability.

### *Collaborations for Change*

"No man is an island," by English metaphysical poet John Donne is an apt summary of the key ingredients for achieving sustainable development. We need to stop working in silos, where scientists, development practitioners, policy makers, private sector, and civil societies, all are doing their own individual projects on the many dimensions of achieving sustainability - be it poverty reduction, climate change, education, livelihoods or gender. In the past, CSD has tended to work mostly with NGOs and INGOs, working in natural and social sciences, conducting field based research on climate change adaptation, gender, sustainable livelihoods and disaster risk reduction in drought areas. This year, in addition to our climate change work, we have branched out and focused on the private sector, local government and youth, as well. We have collaborated with fashion designers, architects, engineers, local government bodies and students working on several of the SDGs. Details on the outcome of such collaborations can be found in our academic research section, as well as the write-up on the 3rd Annual CSD Conference 2018.

### *Integrating Sustainability in Education: The new "black"*

Get to them while they are young! One of the most effective ways to bring about long term sustainability and changes in values and henceforth in behavior and action, is to integrate sustainability science in education, the earlier the better.

At the same time, working with young adults, and bringing in innovation and modernity, will go a long way into making sustainability appealing to the younger generation, making it 'cool' and 'fashionable'. You can read about our Greening ULAB program (Sam's piece) and policy brief on how we are working with ULAB students to integrate sustainability into everyday lives. We also have an editorial piece which captures the successful youth leadership and sustainability work done with a group of university students this past fall. Our work on Green Economy, sustainable production, and the role of the private sector and role of youth is ongoing. In the near future, we hope to start working with primary and secondary schools as well.

### *Social ecological systems and need for transdisciplinary research*

This year I have been luck to sit the Advisory Board of two very interesting groups – Fashion Revolution – a global movement that celebrates fashion as a positive influence while also scrutinizing industry practices and raising awareness of the fashion industry's most pressing issues, and IMBER Human Dimensions Working group which focuses on the interactions between human and ocean systems and promotes an understanding of the multiple feedbacks between human and ocean systems, to clarify what human institutions can do to mitigate or adapt to anthropogenic perturbations of the ocean system. Both have deepened my practical and theoretical understanding of how intertwined human development and ecological systems are, and more so, how sustaining such social-ecological systems require transdisciplinary research encompassing several areas of expertise such as marketing, industry, engineering, fisheries and climate change science. I was at a meeting at the Stockholm Resilience Center where they had a physicist and an ethnographer working on a model around reducing poverty traps and the kind of well being indicators that need to be included in such models. That is the right kind of interdisciplinary and transdisciplinary research that is needed to find effective solutions.

### Meaningful and Sustainable Impacts

So, to wrap it up, how can we develop more meaningful and sustainable impacts from the work we do? I would say let us take off our scientist hats, our development-practitioner hats, our industrialist hats, our engineer hats and have more meaningful conversations, bite-sized workshops and meetings (I use the word bite-size so we can have focused, action-driven, low-cost, and practical meetings on what needs to be done), publish easy to read infographics and briefs that can inform, inspire and educate others who are also interested to jump on this bandwagon of sustainability science and living.

Collectively then, as a society, we can be educated and empowered to make individual changes in our daily lives and at the same time, take it to policy makers (local and international) who can embed the knowledge in policy changes that enable low carbon resilient cities and communities, efficiency in transport, business, education and other areas that will enable us to lead more sustainable lifestyles and really start the transformation that is needed.

Wishing you all a wonderful and meaningful 2019 - One that is good for all people, the planet, and is filled with peace and prosperity!

**Dr. Samiya Selim**
Director of Center for Sustainable Development CSD &
Associate Professor, University of Liberal Arts Bangladesh (ULAB)

# Editorial

## Untapped potential: Engaging youth in sustainability-driven change at the university level

**Nicola Mary Ann Prestano, M.Ed. Visiting Researcher**
Center for Sustainable Development, ULAB.

*Student participants engaged in solutions-driven dialogue.*

University-level students are often an untapped and powerful resource for creating change. Engaging these students in the decision-making process requires not only acknowledging their voices, but also presenting them with active roles in the investigations of and interventions into the social problems that affect their lives. While many universities are focusing on compartmentalized versions of what sustainability will look like on campus, student leaders from ULAB, Dhaka University, BUET, BRAC, Daffodil University, NSU, and Sylhet Agricultural University convened during ULAB's *3rd CSD Annual Conference on Sustainable Development* for the workshop "Youth Leadership and Sustainability" to discuss and develop university-wide strategies aimed at linking sustainable practices with administrative and operational policies.

The group conversation, facilitated by Almeer Ahsan Asif of the Bangladesh Youth Leadership Council (BYLC), invited students to focus on ways in which their respective universities could achieve sustainability outcomes based on several of the UN's Sustainable Development Goals (SDGs). The SDGs aim to achieve a better and more sustainable future for all and work to address global challenges, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. Asif introduced students to a process developed at Harvard University called *adaptive leadership*, which is a main pillar of the work conducted at BYLC. He believes that it can play a crucial role in making progress on the SDGs, especially when youth is in engaged in the process.

Student leaders came to the understanding that in the context of adaptive leadership, problems are categorized into two types: technical problems and adaptive challenges. A technical fix can be provided by authorities and the solutions generally fall within the current strategies for solving the problem. The adaptive challenge approach focuses on the behavioral aspects of all the stakeholders involved with the challenge. It requires work to be done on people's priorities, beliefs, loyalties, and losses. The session focused on how university students can start work now on the adaptive challenges related to SDGs at their campus in whatever capacity they are capable, instead of waiting for the authorities or administration to do the work. The World Café model workshop gave students an opportunity to discuss specific SDGs and reflect on many current interventions both globally and locally that could be implemented at the university level from an organizational standpoint. These included the design of efficient public transport systems in Tokyo, the creation of the cycling super-highway in the Netherlands, and the response to and reduction of pollution and litter, as well as the use of LED streetlights currently being implemented in the city of Rajshahi.

Based on this discourse the participants then worked in groups to discuss and thenceforth suggest SDG-based solutions that they believe could make significant impacts and improvements at their universities. These interventions focused on topics like conserving energy and water, recycling, composting, pollution, transport, and the creation of green spaces – all offering viable ways that Universities can create change and support the SDGs on campus. The most touted being for universities to shift to using sources of renewable energy for operations, provide clean-energy bus-transport for students, and to use rooftop space for composting and urban farming projects. One group offered the insightful contribution that students want an educational shift around sustainability itself, as well. Students disclosed that there is a need for the creation of awareness programs which emphasize the importance of an individual contribution towards sustainability, the knowledge that each contribution counts and that one doesn't have to wait for a group effort to effect change. They want their peers to feel empowered to make changes at the individual level and by putting programs like this in place they believe that the student population will become more engaged in every-day sustainable practices. And because many of these solutions can be applied to the private sector as well, the participants suggested that by allowing students to gain first-hand experience in implementing these types of programs, that universities would be helping to better prepare their students for the workforce and for contributing to the expansion of sustainability practices into other sectors.


*Facilitator Almeer Ahsan Asif of the Bangladesh Youth Leadership Council (BYLC) introduces students to adaptive leadership.*

When given the opportunity, support, and space to explore impactful solutions, university-level students are highly capable of not only participating in, but also designing and implementing campus sustainability initiatives. These opportunities for solutions-driven dialogue give students a sense of agency and of hope. "I truly appreciate how the Center for Sustainable Development at ULAB and its partner organizations are creating this platform for the youth to engage in meaningful conversation about the SDGs. It is high time youth become aware of these problems and start taking ownership of these challenges," said Asif. These conversations allow students to connect with each other and explore the issues that are present in all of their lives, empowering them to take action at the individual level. He also asserts that, "We (BYLC) feel strongly that the adaptive leadership concepts can play a strong role in enabling the youth to think about the adaptive challenges they face and work towards achieving the Sustainable Development Goals to leave a better planet for the future generation. I loved the quotation one of the ULAB faculty mentioned during the workshop, 'There is no Planet B for us'. We have only one home planet, and what we leave behind for future generations depends on what we do now."

In reflection, student participants articulated the opinion that universities should "tap-into" the creative solutions for campus-wide sustainability plans that their student populations are capable of providing. In fact, they believe that the universities would experience an increase in the awareness and success of campus sustainability initiatives if more students were involved. They want to see students have the opportunity to explore these challenges– and the funding to implement the solutions. By working with students to cultivate more sustainable practices and policies, universities also promote environmentally responsible citizenship by empowering students to become change-makers. Ultimately, building the understanding that all members of the school community: students, faculty, staff, and administration alike, are environmental-stakeholders being guided toward practices of sustainability in all aspects of their lives, no matter where they may live or work in the future.

*Nicola Mary Ann Prestano, M.Ed. is Visiting Researcher (U.S.A.) with the Center for Sustainable Development, ULAB. She is currently pursuing her Ph.D. in Transformative Social Change from Saybrook University, California.*

*The "Youth Leadership and Sustainability" workshop took place at the ULAB 3rd CSD Annual Conference on Sustainable Development in conjunction with BYLC, BYEI and OXFAM.*

# PROFILES

**Dr. Oliver Scanlan**

*Ph.D. Politics and International Relations, Dublin City University*

Oliver Scanlan joined the Center for Sustainable Development on the 5th October 2018. Oliver has a Ph.D. in Politics and International Relations from Dublin City University, focusing on customary land and forestry rights in India and Bangladesh. He is a Fellow of the Oxford Research Group's Sustainable Security Programme, specialising in climate change and its implications for global security. He is a member of the UN Environment Programme's Geneva-based Science Policy Platform. He has worked for several International NGOs and multilateral organisations, including Oxfam, Save the Children and UN Environment.

**Ms. Nicola Mary Ann Prestano, M.Ed.**

*Ph.D. Transformative Social Change (Student), Saybrook University, California, U.S.A.*


Ms. Prestano is a Visiting Researcher at the Center for Sustainable Development. Her research interests include community capacity building, education, social-emotional learning, youth development, the prevention of violent extremism (PVE) and social resilience. Prior to entering her doctoral program, Ms. Prestano completed her M.Ed. in Teaching and Learning (2010) and B.A. in English Literature (2006), earning magna cum laude distinction for both degrees.

Ms. Prestano has a diverse professional background spanning several industries including business, publishing, education, fundraising, and staff development. She earned the Junior League "Woman of Achievement Award" in 2010 for her work with underprivileged school libraries in New York City and several other philanthropic partnerships and fundraising efforts. Ms. Prestano is currently pursuing her Ph.D. in Transformative Social Change from Saybrook University in California and will focus on community-based educational and youth development projects while conducting her research in Bangladesh.

# UNDERGRADUATE RESEARCH INTERNSHIP

**Sam Flomenhoft, B.S. Mathematics**
Brown University

In the summer between my sophomore and junior year as an undergraduate student studying at Brown University, I was provided a unique and formative opportunity to work as a research intern at the Center for Sustainable Development (CSD) at the University of Liberal Arts Bangladesh (ULAB). When I arrived, I had no prior experience with either sustainability research or the Indian sub-continent of South Asia. In fact, I had never yet crossed the ocean before my time in Dhaka. While the adjustment to life here was hectic, fortunately, I had substantial support from the wonderful faculty and staff here at the university. Dr. Samiya Selim, Director of CSD, and the other team members at the center eased me into my work routine and early on I had the opportunity to learn how to input and analyze data collected by the CSD faculty. It was a great start for me, and the responsibility was small enough that I didn't feel overwhelmed, but significant enough that I felt like a contributing member of the team.

As my experience continued, I was asked to accompany Dr. Shantanu Kumar to the northern-most point of Bangladesh in order to conduct research at the Kazi and Kazi Tea Garden (KKT) and its sister organization, the Kazi Shahid Foundation (KSF). KKT stands as the only one hundred percent organic, sustainable tea garden in Bangladesh. They truly use no synthetic products and produce no landfill waste. They make their pesticide from the juice of plants they grow on their own acreage, cultivate all ingredients that go into their product such as ginger, jasmine, and tulsi within the garden, and mix their fertilizer from cow dung and plants also raised organically.

The cow manure component of the fertilizer was actually the motivation for the establishment of the Kazi Shahid Foundation. KKT simply lacked the infrastructure to care for the number of cows required to produce the amount of manure necessary to provide fertilizer for their more than 400 acres of land. Thus, the company turned to a solution benefitting not only them, but also the local community. KSF loans a hybrid breed of cow (different from the local breed of cows which produce milk of poorer quality and in lower quantity) to women in the Panchagarh area. The families then pay back the value of the cow not through typical cash payments (although cash repayment is optional), but through manure and a portion of the milk the cow produces. Most cows reach full payment after one year and become profitable for families following that. Additionally, KSF provides the insurance and medical care for all cows under their loan. The organization recently began distributing bio-gas plants to their beneficiaries, allowing the families to transform cow waste and water into gas for cooking and other purposes. The company is doing an excellent job supporting the interests of both themselves and the surrounding community.

I went to the area with the intention of learning as much as possible about the procedures of these two organizations, as well as helping Dr. Kumar interview beneficiaries in order to assess the impact and success in the areas of poverty alleviation and women's empowerment. Over the week I spent there, I became intimately familiar with the organizations, their operations, and their personnel. I spent four days at the KSF guesthouse, driving along dusty rural backroads in Panchagarh to visit KSF beneficiaries, many with five or more cows providing a large subsidy to the families' primary incomes, sometimes even replacing them as the dominant bread winning strategy. After my stay with Kazi Shahid Foundation, I visited Kazi and Kazi Tea Garden, where I stayed at the immaculate Anondo Dhara, the company's tea resort with unimaginable stone architecture. It is a beautiful tea resort to parallel their beautiful tea garden which fills the landscape with an array of lush greens. The aesthetic pleasantries of the garden are a visual expression of the harmony produced by the organic and sustainable practices of Kazi and Kazi Tea Garden.

Upon my return to Dhaka, I had a weekend to catch my breath, and then dove into what would become my normal work routine at CSD. On top of my data input responsibilities, I had the chance to help write and edit research papers, many of which will be published in CSD's next book on climate change and rural agricultural and environmental knowledge. The research papers I reviewed provided me with new outlooks on sustainability and helped me polish my scientific writing skills. They also provided me with a peek into the world of research and publishing, an extremely valuable opportunity for a college student such as myself.

At the beginning of the summer, I was scheduled to initiate a research project concerning the United Nations' fourth sustainability goal – quality education on sustainability. I created an online questionnaire to evaluate the perception of sustainability as well as assess the current level of sustainable practice on the campus. The questionnaire was sent out during my last week and the project is still under way.

My summer interning at CSD was amazing. The faculty there were unbelievably supportive and provided me with all the help I needed to succeed. My notion of sustainability expanded from being strictly environmental to seeing the concept as an entire ethic – environmental, social, and economic. As the inaugural intern (for a program for Brown University students that will continue), things could be hectic at times, but the great people around me helped operations go smoothly. I made connections at CSD that I will keep and cherish for life, and I'll certainly be back to Bangladesh to visit, and maybe conduct graduate research of my own.

# VISITING RESEARCHER PROGRAM

The Center for Sustainable Development at University of Liberal Arts Bangladesh offers many opportunities for local and international students at the graduate-level, as well as young post-doctoral researchers, the opportunity to gain unique, authentic insights into sustainable development and interdisciplinary research. Our visiting researcher program promotes the exchange of knowledge and ideas between research scholars in Bangladesh and foreign research scholars by building opportunities for mutual enrichment and providing connections between research and education. Over the course of the past year, the center has had the pleasure of hosting students from various locations across the globe, each bringing unique experiences and specialized knowledge to the team. Each visiting researcher has provided a brief summary of their experience while working in Bangladesh and with the Center for Sustainable Development.

**Ms. Stephanie de Buhr**
MSc Student at University of Bremen

Arriving in Dhaka can be overwhelming. Luckily, I had the support of the Centre for Sustainable Development to help me find my feet in my new surroundings. The CSD not only provided a warm welcome, with friendly faces and even some lovely exchanges on people's experiences in Germany, but also offered fantastic logistical support. Unfortunately, my research was not based out of Dhaka, so I could not use the desk and internet access provided for very long, however I read some of the literature published by CSD and it was superb to kick start the first stage of my research. With my co-supervisor from CSD (Dr. Samiya Selim), I attended a Gobeshona meeting where I was able to network with academics and NGOs working in the field of climate change adapted livelihoods. This meeting was a great first contact and I am thankful to CSD for the exposure. The aim of my field research was to look at different approaches used by NGOs to transform livelihoods in coastal Bangladesh. The people living in the coastal regions of Bangladesh face several problems; ranging from increased cyclone frequency and intensity to salinity intrusion, riverbank erosion and lack of alternative income sources. The NGO sector has played a big role in disaster relief and livelihood support through monetary and technical means. Understanding different approaches and looking at projects that have finished in the last 10 years, will hopefully enable me to identify strong and weak points in generating a self-sustaining process. Self-sustaining processes are in itself an aspect of sustainability because it implies that the people involved in the project can carry out independent work beyond the project's timeframe, and possibly even, the region. The knowledge of what may lead to a self-sustaining process can then be used to aid effectiveness and implementation of future projects and to establish project sustainability. I hope to be the first of many students from University of Bremen who will come to Bangladesh and collaborate with CSD to continue the outstanding work and share in their passion to help combat the growing need for climate adaptive solutions.

**Ms. Ida Edvinsson**

My research focuses on aspects of Technical and Vocational Education and Training (TVET), a form of education which of late has gained remarkable interest in the international community: phrased as "the master key to development" it is considered to be *the* silver bullet to meet expectations of economic growth worldwide. Bangladesh, partaking in the global trend of recognizing TVET for its instrumental values, also explicitly counts TVET as a key component in moving towards its goal of becoming a middle-income country.

Through the vast network of Dr. Samiya Selim and CSD, I was put in contact with key experts on the issue which allowed for much appreciated feedback throughout my time in Dhaka. Moreover, I got invited to numerous conferences and networking events, which allowed a broader understanding of the education system and the wider situational context. In addition, CSD put me in contact with the most professional and sharp young interpreters, who quickly understood my style of interviewing and the objective of my study. I would highly recommend the Visiting Researcher program at CSD ULAB to others studying or conducting research in this part of Asia.

**Ms. Sara Minnaro**
Autonomous University of Barcelona, Spain

I am a post-doctoral researcher at the Autonomous University of Barcelona (Spain), and work in the ERC-funded BIGSEA project as part of the Earth System Dynamics research group (https://earthsystemdynamics.org). Our project aims to develop a unified framework model which represents the most important interactions of the global human-ocean system. I came to Bangladesh to complete fieldwork on subjective well-being in small-scale fishing communities and how it changes, along with fishing effort and environmental perceptions, at different degrees of market integration.

Partnering with the CSD proved a great decision for the duration of the trip; from being picked up at the airport terminal upon my arrival, to being provided with networking opportunities, to the invaluable help in organizing the fieldwork logistics, it was a wonderful experience and a great entrance gate and reference to a deeper understanding of the fascinating and complex country that is Bangladesh.

Our sampled locations needed to include both remote areas and sites fully integrated in the global economy. CSD staff advised me on selecting the sites, which ended up being the remote island of Nijhum Dwip, and several fishing communities in the crowded and more developed Chittagong area.

The scientists at CSD, through their wide network of contacts in Bangladesh, selected a brilliant team of university students who actively participated as field assistants and enumerators in the field research. They also provided the introduction to the communities we would work with, ensuring we had their approval and support to undertake our study. Included are some photos from my fieldwork and my experiences with the CSD team.

I am particularly grateful to Mr. Joy Bhowmik for his kind assistance and efficient handling of logistic matters. I would like to give special thanks to Dr. Samiya Selim for her warm welcome to the team. In the future, I look forward to fruitful ongoing collaborations with the Center for Sustainable Development at ULAB.


4th Asia-Pacific
Coal Reef Symposium

## Healthy Oceans-Healthy People & Ramna Park Visit

*Dhaka, Bangladesh*

The Center for Sustainable Development at ULAB organized an interesting and unique field trip on the 1st November 2018. ULAB faculty members, Dr. Samiya A. Selim, Dr. Rumana Sultana, and Joy Bhowmik, along with students from both the 'Biodiversity and Nature Conservation' and the 'Environmental Science' courses attended the *Healthy Oceans-Healthy People* event at Bangladesh Shilpakala Academy and visited Ramna Park.

*Healthy Ocean-Healthy People event participants at Ramna Park*

The *Healthy Ocean-Healthy People* event at Bangladesh Shilpakala Academy was organized by the Wildlife Conservation Society (WCS) Bangladesh. It was a first-of-its-kind interactive exhibition about marine wildlife in the Bay of Bengal and Bangladesh's efforts to conserve them. Students explored the amazing diversity of dolphins, whales, sharks and other ocean giants in Bangladesh's marine waters. They had the opportunity to learn why the survival of these threatened ocean giants in the Bay of Bengal is critical to the continued growth and well-being of our nation.

Ramna Park is a large green space which contains huge biocultural diversity and is situated at the heart of Dhaka, the capital city of Bangladesh. The park is one of the most significant biological hotspots in this major metropolitan city--boasting lots of plants, animals and a lake near its center. Students observed and surveyed species diversity, richness, trophic levels and the intricacies of the food web there. They explored the abiotic and biotic components of both terrestrial and freshwater ecosystem through a lens of cultural diversity.

By highlighting diversity and the importance of the ways that cultural groups live in harmony with biodiversity, the students were also able to identify and explore socio-ecologically adjustable and sustainable ecosystem management solutions. Overall, a truly interesting and authentic learning experience for our students.

## Learning Through Live Experiences: Studying low-cost technologies related to climate change adaptation

*Gazipur, Bangladesh*

*"Tell me and I will forget, Show me and I will remember, Involve me and I will understand."*

*– Confucius*

**The purpose of education is to develop the knowledge, skill or character of students. Thus, education is the process of learning and knowing that which is not restricted to the confines of a classroom or a textbook. When we educate the minds of our youth, we must not forget to educate their heart, as well. A coordinated way of teaching our mind and heart is through meaningful and hands-on experiences.**

Mehedi (21), a 9th semester BBA student took the course *Introduction to Climate Change Debate* and one day said, "Sir, can't we go to somewhere to learn different aspects of climate change practically?"

*CCDB Climate Technology Park, Sreepur, Gazipur*

The question was significant and revealed the importance of developing a field trip in this course. Bangladesh has a great deal of experience in studying the impacts of climate change and researching and developing interventions which address issues related to climate change. Moreover, a lot of national and international organizations have been working in the country at the heart of this topic for a long time. The Christian Commission for Development in Bangladesh (CCDB) is one of the oldest and famous organizations in Bangladesh which has been conducting projects in the field of climate change adaptation since 2000. Climate Technology Park, the location of the field trip, is one of the initiatives by CCDB which demonstrates several low-cost technologies related to climate change adaptation and mitigation that can be replicated at community level, both in urban and rural setting of Bangladesh.

Two of the CCDB officials informed students about the technology section related to climate change adaptation and mitigation. Students were then shown how vulnerable populations in Bangladesh are adapting to the adverse impacts of climate change through the use of different technologies.

Students were introduced to an array of technologies which currently help people in both rural and urban Bangladesh to mitigate the ecological footprint by reducing production of greenhouse gas emissions. The students responded positively to the field trip, stating that they found the experiential learning experience to be a very informative and worthwhile departure from the traditional course.


*Bangladesh Rice Research Institute (BRRI), Gazipur*

The impact of climate change on the agriculture in Bangladesh is irreversible. Every year a huge number of our crops are being wasted due to natural calamities and the amount of agricultural land is also decreasing. Scientists of BRRI have been working continuously to ensure food security of the country by cutting this loss.

During a lecture on the topic of food security and bio-safety in the Environmental Science course, Nishi, an 11th semester Media Studies and Journalism student who took the course as a GED said, "*What is Bangladesh doing to aid in achieving food security, in spite of the fact that we are a vulnerable country due to climate change impacts"?* This question revealed the importance of introducing students to an organization which is working in Bangladesh to ensure food security. BRRI (Bangladesh Rice Research Institute) is an agricultural research institute which is known for an outstanding contribution to the food security of Bangladesh. It is one of the most famous agricultural research institutions among the rice producing countries globally.

Students visited BRRI and interacted with three departments specifically, plant physiology, the genebank and the plant breeding facilities, which work on to find solutions to the problems associated with paddy production and climate change. Students participated in examining high yielding varieties of rice and learned a great deal about different types of rice grain found to be suitable for flood, drought and saline areas. The concrete demonstration about the genebank gave them a clear idea about the bio-safety regulations in Bangladesh. Each aspect of the trip allowed the students to have an authentic, hands-on learning experience which will help them to apply their knowledge in a concrete way to the coursework, as well as impact them on a personal level.

## Climate Change: What do Bangladeshi Women Want and Need to Adapt and Mitigate?

**Dr. Samiya Selim & Dr. Carolyn Roberts**

Bangladeshi citizens are already responding to climate change and related environmental pressures in many ways, by adjusting their agricultural practices, protecting their houses and land, altering how they deploy limited resources such as cash energy, water, and food, developing new business activities, and by migration within the country and internationally. The set of responses is extremely complex, with secondary and tertiary activities following on, some of which are effectively forced whereas others are voluntary. Previous research (for example papers published in Selim *et al*(2018),*The Environmental Sustainable Development Goals in Bangladesh*, Routledge) has focussed on exploring the impact and effectiveness of some of these adaptation and mitigation strategies, but the results have usually focussed on what men have done, or are doing, and has generally downplayed the specific activities and aspirations of women. Women are not only one of the societal groups most adversely affected directly and indirectly by environmental change, but their actions and commitment are crucial to Bangladesh making genuine progress towards sustainability.

The project will explore the aspirations of several different groups of women in rural and urban areas, identifying how they understand their own opportunities for adaptation to,and mitigation of, these environmental pressures. It will capture what they would identify as being most needed in terms of public policy. It will suggest ways of responding to the priorities of women, but will also draw on the influence of women in policymaking across public, private and community sectors.

**Project motivation and objectives**

Women take a leading role in raising future generations of citizens. They are usually crucial in the developing world as food producers, animal breeders, and suppliers of fodder, wood or other fuels, and water. However, they are often sidelined in studies relating to climate-adaptive practices,despite the fact that research clearly demonstrates that they are the most likely group to experience the negative consequences of progressive or catastrophic environmental damage. In Bangladesh, for example, gender inequalities such as poverty and disempowerment, but also direct health impacts, and polarised socio-cultural attitudes resulting in discrimination, harassment and violence are observably increased when environmental damage has been experienced by both rural and urban communities (Nasrin, 2012). Women typically have less access to new technologies, and fewer opportunities for migration to improve their position in the face of environmental stresses.

Conversely, Bangladesh has women decision makers in senior positions in business and government, who may be able further to influence the pattern of progress towards the SDGs.In 2015, for example, 22% of the heads of National Environmental Ministries in Bangladesh were women (IUCN, 2017). Moreover, the role of women and their empowerment is of particular interest to the Prime Minister of Bangladesh, whose support for this project will be sought. What remains unknown is whether the views of these decision makers are aligned with those of women in less advantaged positions, or whether their aspirations are reflected in policy and action.

**Through this project, we expect to achieve six main objectives.**

i) Identification of the aspirations of women for specific policies and actions, in different settings
ii) Comparison of women's' views with the priorities already set out in national and regional environmental and climate policies and exploration of any lack of congruence;
iii) Capacity building by assisting already experienced field researchers to become more aware of the importance of securing currently underrepresented voices and, through sharing good professional and research practice, to improve their visibility.
v) Based on the production of a policy brief and a set of guidance notes, raising awareness amongst decision makers that women's voices matter when environmental policy is set and identifying key messages.
iv) Production of at least two academic papers summarising the findings in peer-refereed journals, with multiple authors drawn from the research team;
vi) Presentation of the findings at a minimum of two international conferences.

# Comparative Study on Drought Impacts to the Agro-biodiversity between High and Low Drought Prone Areas of Bangladesh

**Md. Shafiqul Islam, Assistant Professor**
Center for Sustainable Development, ULAB

## Abstract

The study found that there is a distinct relationship between the impact of drought and agro-biodiversity. High-rate drought prone areas show low farm and homestead diversity. Similarly diet and market are also impacted by drought. The people from high drought areas consumed less meal in a day. The issues likely low soil moisture, land degradation, water scarcity and cultivation practices are associated with the drought risks. Land use planning, efficient water use and cropping pattern can reduce drought impacts on agro-biodiversity

## Introduction

The most complex and uncertain natural disaster is drought. Agro-biodiversity provides three types of value: use value, option value, and existence value. Drought impacts on agro biodiversity in many ways such as production, water, and species diversity. Agro-biodiversity is contributing to agricultural production, maintaining ecosystems and human food security. Agro-biodiversity provides diverse benefits including nutritious diets (fruits and vegetables) for human health; longer productivity; adaptation to changing conditions; and conservation methods for enabling future use. Crops like High Yielding Variety Boro, wheat, pulses and potatoes in water deficit areas are affected severely. The reduction of agro-biodiversity is closely linked to the loss of productivity, while threatening ecological stability, the security of food supply and livelihood worldwide. Agro biodiversity has been disturbed due to switching from rain-fed agriculture to irrigated agriculture. Increasing frequency of droughts are going to be the most important climatic factors affecting agro biodiversity. Drought affected on-farm diversity (lack of soil moisture & water), market diversity (less availability of diverse crops) and dietary diversity (low diet). All these together lead them towards food insecurity and dietary quality. The study was conducted with the view to assess and compare drought impacts on agro-biodiversity in high drought and low drought areas of Bangladesh. It assumed that there is a trend of greater homestead and farm agro-biodiversity in the low drought prone area than high drought prone area. Two sites have been selected for this study one from high drought and another from low drought prone site based on the report of CEGIS, 2009. Homestead and farm agro biodiversity (plants) have been calculated using Shannon's and Simpson's Index. Surveys (households, farms, homesteads and markets) and Focus Group Discussions were conducted for this study.

## Results

Based on preliminary findings (for Kharif-2 season) homestead and farm agro-biodiversity, dietary diversity and market diversity have been discussed in the following sections:

## Homestead Agro-biodiversity

It was found that homesteads of low drought areas show greater diversity than high drought area (1.223 ‹ 1.308). The respondents believed that it is happening due to drought (causal effects of low soil moisture, low water holding capacity of the soil, low soil fertility and low rainfall over the season). It also affects agro ecology for the production. The numbers of family member has the effect on homestead agro-biodiversity followed by age, income, education, land size and farm category. According to the hypothesis there is significant difference of homestead agro-biodiversity between high and low drought prone areas.

## Farm diversity

The farm diversity was calculated using Shannon Index and found that the farm from low drought area shows greater diversity than high drought prone areas (table 1).

**Table 1: Farm Diversity**

| | High Drought Prone Area | | | | | Low Drought Prone Area | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Category | Var | Pi | $Pi^2$ | InPi | -(Pi*lnPi) | Var | Pi | $Pi^2$ | ln Pi | -(Pi*lnPi) |
| Cereals | 2 | 0.065 | 0.004 | -1.19 | 0.0768 | 8 | 0.121 | 0.015 | -0.91645 | 0.11109 |
| Pulses | 1 | 0.032 | 0.001 | -1.49 | 0.0481 | 3 | 0.045 | 0.002 | -1.34242 | 0.06102 |
| Tress | 8 | 0.258 | 0.067 | -0.59 | 0.1518 | 12 | 0.182 | 0.033 | -0.74036 | 0.13461 |
| Fruits | 11 | 0.355 | 0.126 | -0.45 | 0.1597 | 18 | 0.273 | 0.074 | -0.56427 | 0.15389 |
| Vegetables | 6 | 0.194 | 0.037 | -0.71 | 0.1381 | 16 | 0.242 | 0.059 | -0.61542 | 0.14919 |
| Fishes | 7 | 0.226 | 0.051 | -0.65 | 0.1459 | 14 | 0.212 | 0.045 | -0.67342 | 0.14285 |
| Animals | 4 | 0.129 | 0.017 | -0.89 | 0.1147 | 7 | 0.106 | 0.011 | -0.97445 | 0.10335 |
| | 39 | | 0.303 | | 0.8351 | 78 | | 0.239 | | 0.856 |
| Shanon Index | | | | | 0.835 | | | | | 0.856 |
| D | | | | | 3.302 | | | | | 4.180 |

## Dietary Diversity

Few food stuffs were considered for this calculation including vegetables, fruits, pulses, fish and meat. Data on previous day is considered for their dietary consumption. It was found that the household from the low drought areas were consumed diverse diet than high drought areas (table 2)

**Table 2: Dietary diversity at the household**

| | High Drought Prone Area | | | | | Low Drought Prone Area | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Category | Var | Pi | $Pi^2$ | lnPi | -(Pi*lnPi) | Var | Pi | $Pi^2$ | lnPi | -(Pi*lnPi) |
| Vegetables | 21 | 0.4883 | 0.2385 | -0.3112 | 0.1520 | 31 | 0.4189 | 0.1754 | -0.37787 | 0.1583 |
| Fruits | 6 | 0.1395 | 0.0194 | -0.8553 | 0.1193 | 11 | 0.1486 | 0.0220 | -0.8278 | 0.1231 |
| Pulses | 4 | 0.0930 | 0.0086 | -1.0314 | 0.0959 | 6 | 0.0810 | 0.0065 | -1.0910 | 0.0885 |
| Fish | 9 | 0.2093 | 0.0438 | -0.6792 | 0.1421 | 19 | 0.2567 | 0.0659 | -0.5904 | 0.1516 |
| Meat | 3 | 0.0697 | 0.0048 | -1.1563 | 0.0806 | 7 | 0.0945 | 0.0089 | -1.0241 | 0.0969 |
| | 43 | | 0.3153 | | 0.5901 | 74 | | 0.2790 | | 0.6183 |
| Shanon Index (H) | | | | | 0.59 | | | | | 0.618 |
| D | | | | | 3.172 | | | | | 3.584 |

## Market Diversity

The market from high drought prone areas showed less diversity than low drought prone areas (3.08 ‹ 3.48). Most of the varieties are come from distant sources in the market of high drought prone areas. Based on above circumstances, it may conclude that there is significant impacts of drought on homestead agro-biodiversity, farm diversity, dietary diversity and market diversity.

## Conclusion and recommendation

Drought has the impacts on homestead and farm agro-biodiversity, dietary diversity and market diversity. High drought prone areas are disturbed more than low drought prone areas due to numerous factors like low soil moisture, water scarcity, low precipitation, high temperature and cultivation practices. In reducing drought impacts, crop diversification, land use planning and efficient use of water essentially important. More research is required on drought impacts on soil fertility, physical and biological properties in the Barind Tract.

# Loss and Damage Caused by Climate Change

*Evidence-based Understanding and Action*

**Joy Bhowmik, Lecturer-cum-Research Associate**
Center for Sustainable Development, ULAB

**Loss and damage (L&D) is an emerging topic in climate change negotiations, research and policy as well as in the implementation of climate change action. In this purpose, researchers are struggling to assess and finding ways to address climate change related loss and damage. We visited Nijhum Dwip Island to gather evidences of climate change impacts in order to understand the assessment of loss and damage.**

*Visiting Nijhum Dwip Island, Bangladesh*

Achieving emission reduction target and building resilience against climate change is not an easy journey. In this regard, some climate change induced negative impacts and damages are now unavoidable. The inevitable consequences of human-caused climate change have collectively come to be known as "loss and damage" although as an emerging policy issue loss and damage does not yet have a universally agreed upon definition. A recent literature review defined loss and damage as the actual and/or potential climate change impacts in developing countries that negatively affect human and natural systems. 'Loss' denotes the permanent negative impacts of climate change. While 'Damage' is considered reversible, such as repairing a road, building or embankment which is damaged by the negative impacts of climate change.

Asia-Pacific is the world's most disaster prone region and according to the *World Risk Report 2017*, Bangladesh ranked the world's fifth most at-risk country in terms of disaster. Although Bangladesh has already increased its disaster preparedness capacity at a significant rate through different disaster risk reduction approaches, climate change has increased the intensity of all natural disasters which are prevalent in the country. Citizens living in the risk prone areas are affected at an alarming rate of frequency by natural disasters almost every year. In this context, the objective of this research is to assess the loss and damage caused by the natural disasters which is directly linked to

climate change since assessing loss and damage is an important issue in the UN Framework Convention on Climate Change (UNFCCC) negotiations. Failure in the assessment of climate change induced loss and damage is one of the key barriers to seeking compensation. Therefore, another objective of this research is to relate all these disasters with climate change. Moreover, reducing climate change related loss and damage needs a lot of actions which was previously mentioned as addressing loss and damage through disaster risk reduction.

Earlier this year, while on a different research project in collecting evidence of ecosystem-based adaptation a visit of Nijhum Dwip Island was conducted. Nijhum Dwip Island is under Haitya Upazila (sub-unit of civil district) and Noakhali civil district. This island began to form in the 1950s, and during the 1970s and 1980s the higher parts of the island silted up to about the mean high water (MHW) line. At present, the total area of the island is 4,057 ha. The Forest Department of the Government of Bangladesh created mangrove forests in Nijhum Dwip and declared as national park which encompasses a total area of 16, 352 ha.

During data collection of climate change impacts, a focus group discussion began. During this discussion, Jamila Begum, a resident of the island said, “I lost my 3 years old son in the cyclone Aila and I also have to repair my house almost every year since the island doesn’t have any dam and it is damaged every year in high tides.” In addition to the experience of Jamila, Abdul Majid (her neighbor) added, “This year I invested 20,000 taka in fish cultivation, but I failed to save my fish from the high tide. All the fishes were floating away with the water. We cannot cultivate paddy more than once in a year whereas people in other areas can cultivate two/three times. To add to this, we have to live in uncertainty during the harvesting period due to sudden cyclone risks; two years back it happened and we lost our crops too.”

The above mentioned two comments from the focus group discussions are tangible proof of the loss and damage experienced by the local inhabitants of Nijhum dwip which can be differentiated under economic and non-economic loss and damage.

The challenging part of this research is to associate the natural disasters with climate change and furthermore, to identify a robust methodology for assessing the losses and damages. This is a long term research project which includes several issues i.e. understanding loss and damage in terms of UNFCCC and Bangladesh context, defining climate change related loss and damage, assessing economic and non-economic loss and damage, reviewing international and national policy in addressing loss and damage and scope of climate finance in building resilience to mitigate climate change related loss and damage.

## Climate change and Migration: Ethnographic Experience in Southwest Bangladesh

**Basundhara Tripathy Furlong, Assistant Professor cum Research Project Manager**
Center for Sustainable Development, ULAB

Migration is multi-causal with climate change and environment being one of the many variables. Environmental impacts triggering migration have increased over time. In such circumstances remittances have become a significant contributor to the communities in the place of origin. The focus among researchers has been on financial remittances while non-financial remittances have been underexplored. The goal of this research is to study the impacts of social remittances in Bangladesh in the context of climate induced internal migration. Social remittances include normative structures (Ideas, behaviour, knowledge and gender), skills and practices (livelihoods) and social capital (networks). These non-monetary or social remittances could impact the immobile, non-migrating people who are living in the climatically fragile and vulnerable areas. The study is conducted in the southwest coast of Bangladesh, one of the most vulnerable areas to the impacts of climate change. Internal migration, which is more prevalent than international migration is the focus of this study mapping the movement from rural to urban areas in Bangladesh. The key research questions include: networks and connections between rural and urban spaces, where the channels of networks and the information, knowledge or ideas transferred; women's mobility/immobility and the linkages with social remittances at the household level; resilience from floods, cyclones and salinization, as climate change impacts the south west coast. This research aims to generate information and analysis on social remittances as an insightful addition to the academic debate concerning climate induced migration.

*River erosion and cyclone causing the embankment to collapse.*

## Gram (The Village)

Padmapukur village in Koyra Upazila, Khulna district was devastated by cyclone Aila in 2009. The village is still recovering from the loss of land (their main livelihood) along with great damage to their homes, some of which were washed away. Regular episodes of river erosion makes this area extremely vulnerable to climate-related impacts. In the village, a number of locals have been interviewed and have shared their stories. Many people migrate in this Hindu-dominated (otherwise a minority in Bangladesh) village. Seasonal migration from October to March every year seems popular among them. Most Muslims in this area migrate seasonally, while the Hindu families send their children to study in bigger towns and cities such as Koyra and Khulna. Most of the land owned here belongs to the dominant community who seem relatively more well-off. They practice fish/shrimp agriculture in ghers. Traditionally a rice farming society, they shifted to shrimp/fish cultivation in the last two decades. Saline ingression and more income from shrimp farming when compared to paddy, made this shift possible. The fish from the ghers feeds the family all year round while the excess is sold in the local market or haat. Ghers are owned by richer farmers while the rest are employed to work in these farms. Since ghers do not require significant manpower, many people seem to be migrating.

*Ghers in Padmapukur village with a hut for the gher owner to keep a watch on it at night*

A local tailor in the market shared that he would be leaving for Mymensingh once Durga Puja, a Hindu festival, is over. He apprised his schedule - staying in the village for only 6 months and making women's clothing especially for festivals such as Eid and Puja. The rest of the year he spends making bricks in kilns in Mymensingh, close to Dhaka city. His wife manages the gher he leaves behind along with the fruit trees, vegetable garden and a few animals they rear. His sons study in bigger towns and city. They want to settle in those places and visit Padmapukur occasionally. He would like to live in those places as well, but has an attachment to his village and community that holds him back.

*Interviews in the local market at Jorsing village.*

An identity, a pride of belonging to this village and the feeling of a community keeps them rooted to the place, despite its vulnerability to disasters. Experiences outside of this remote village are then used by him and his family. He would see different private universities in Dhaka city on some visits from Mymensingh and imagine his children going to college there. He has realized that dream, although not in Dhaka but in Khulna city.

Another interesting case was of a young woman living in a little mud hut with a single room that combined to form the kitchen, bedroom, a place to entertain guests. She was there with her 15 month-old son. She had moved 500 meters to this new house that she and her husband built post-cyclone Aila. Earlier they lived with the husband's extended family, a compound that housed the in-laws and a house for each of the brothers and their family. She was not particularly liked by the husband's family as he married for love, a woman he chose and who chose him. This was unconventional in this traditional society. Here, parents choose a partner for you based on your family's income, social status, the bride/grooms earning capability, education and skills to manage a household while stay loyal to the in-laws family and help them in their daily household work. Both the woman and her husband were not given any property after their wedding which is a common ritual among families, as this was a love marriage. When Aila hit this village, most houses collapsed as they were made of mud, bamboo and tin sheets. She decided instead of rebuilding her home, she would move away and start a new home with just her own family. The husband agreed. They made their house on khaas land (government land, where one has no property rights).

Her husband migrates to Ashulia for brick making work 6 months of the year. She takes care of her family, takes decisions for the household and collects money through Bkash that is sent by her husband on a monthly basis. Her father's house (baaper gram) is close to her current home. Her father, brother or another man in the house does the grocery for her. Young married women such as herself do not visit the market. It's a place for men, children (at times) or old women. She saves money every month, and having seen other people rear goats and chickens which helped the family with food and extra income through sales, decided to do that herself. Their house is made of mud and bamboo sticks that act as pillars to support the structure. They have added an asbestos roof over the tin sheds to make it more secure. All these skills were picked up during the husband's visit to Chattogram (city) and other people practising it in the village (mainly migrant families).

*Aseasonal migrant ready to leave the village for the brick kilns.*

Each of these interesting stories serve to unravel the complex nature of migration, social remittances and its impact on those who are left behind are being probed further. The ethnographic experience of living with the locals and following the migrants through Bangladesh will provide finer details of internal climate induced mobility and social remittances. This research responds to a societally relevant issue of migration due to climate change, which is on the rise. Rural to urban migration is putting stress on the urban centres while the rural study area remains a vulnerable zone to the impacts of climate change. Under these circumstances, the role of social remittances for resilience and the communities behaviour in response to climate change can be useful. This new knowledge can be used to inform how academic scholars and development practitioners (Government, development partners, private sector and civil society) plan for and evaluate the development of the Southwest coastal region of Bangladesh and similar contexts.

*Boats parked in Jorsing village overlooking the Sundarbans.*

## Cultural Ecosystem Services Provided by Urban Green Spaces of Dhaka City

**Dr. Rumana Sultana, Assistant Professor-cum- Research Associate**
Center for Sustainable Development, ULAB

Understanding the cultural benefits of ecosystem services provided by urban green space is important to achieving a socio-ecologically sustainable city. Dhaka is the capital and largest city in Bangladesh, with a population of 18.89 million in the Greater Dhaka Area. There are many green parks (e.g. Ramna Park, Suhrawardy Udyan, Gulshan Park), gardens (e.g. National Botanical Garden, Baldha Garden, Chandrima Uddan), Lakes (e.g Banani lake, Dhanmondi lake and Hatirjheel-Begunbari lake), rooftop gardens, greeneries associated with housing, and street-side greeneries within Dhaka city. However, most of the green spaces are often crowded and lacking in security and cleanliness aspects. Many of the Dhaka inhabitants are unaware about the nonmaterial befits those they are getting from green space.

*Green Space around Dhanmondi Lake. Captured by Zahid Ul Islam.*

In the Millennium Ecosystem Assessment (MEA), cultural ecosystem services (CES) are defined as "nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and esthetic experiences" (MEA 2005). Vierikko et al. (2015) defined urban green spaces as "both natural and man-made vegetated areas in urban areas, including water bodies, constructed green roofs and green walls. Green spaces or areas may also include cultural objects (e.g. historical buildings, statues) and recreational infrastructure."

One major aspect of sustainability in urban areas is the presence of green space that benefits urban life quality through a decrease in pollution, increase in biodiversity and recreational activity (Faehnle, Bäcklund, Tyrväinen, Niemelä, & Yli-Pelkonen, 2014). Dhaka's green spaces could be regarded as prominent places for improving social-cohesion

and supporting the quality of life for middle- and lower-socioeconomic groups. Still, significant gap exists in the understanding of CES provided by Dhaka's green space. Thus, it is necessary to identify important topic regarding CES on urban green space of Dhaka through a semi-structured questionnaire interview. Through qualitative analysis following topics regarding CES by urban green space in Dhaka city were identified:

### Green space for recreation

This topic includes recreation in green space through relaxing activities (e.g. nature observation) and practical works (e.g. gardening). Dhaka inhabitants opined that green spaces are beneficial for spending quality time with friends and family. One of them said "*I love greenery and I like to observe the nature, birds and waters*". Recreational activities vary depending on age; young inhabitants use it for meeting friends whereas aged inhabitants use it for walking.

*Green Park (Ramna), greenery in balconies (Dhanmondi), rooftop garden (Dhanmondi), and greenery associated with household (Mohammadpur)*

### Mental satisfaction in Greenery

There are numerous sources of mental-dissatisfaction for residents in Dhaka city (e.g. traffic jams, air pollution). Fortunately, many of the inhabitants find green space to overcome this dissatisfaction for a short duration of time.

### Physical activity in Parks

Dhaka inhabitants often use green space for physical activities including walking, exercise, games, sports. Mostly middle aged and aged inhabitants prefer walking and doing exercise in green space whereas young inhabitants like to do sports there.

*Green space for sports (Mohammadpur), social-gathering (Ramna), nature observation (Chandrima Udyan)*

### Organization of or participation in special events in Park

Although lack of organized events was one of the most often indicated important limitations for all types of green spaces in Dhaka, Interviewees stated that some of the green spaces are very important for organization and participation of special and social events (e.g. Ramna Park), but others are not. "*I used to visit Ramna Park during Pahela Boishakh"* (Inhabitant said; Pahela Boishakh is the celebration of Bangla new year)

### Rooftop garden and agriculture

One city inhabitant states, "I cannot imagine my house without plants." Rooftop gardens and agriculture are not only ecologically beneficial, but also economically feasible. Any inhabitant's love for gardening can make it possible to increase greenery in Dhaka city.

### Limitations to utilizing green spaces

Respondents mentioned that crowd, lack of leisure, insufficient infrastructure, and lack of security are the major limitations to utilizing green space. One interviewee reflected, "Although I prefer to visit green space in order to overcome loneliness, crowded environments distract me from Dhaka's green space."

### Importance of the CES provided by urban green

"Can't live without nature, without greenery." Dhaka inhabitant said. Green spaces are found important for not only recreation, games and sports, exercise, mental satisfaction but also fori environmental purpose, economic development and societal development by the interviewees.

Above mentioned topic regarding the CES provided by urban green infrastructure will give deeper understanding on meaning and complex interaction between inhabitants and their surrounding green environment, helping urban planners and policy makers to understand diversified perception by Dhaka inhabitants. Interestingly, it can also be a way to foster public awareness and participation to conserve and sustainably utilize Dhaka's green spaces. These findings are the basis for further quantitative study on this topic.

## Sustainable Development Studies: Taking Care of Our Planet


The Center for Sustainable Development at ULAB is proud to now offer a minor in Sustainable Development Studies (SDS). This program of study looks at scientific solutions and societal interventions for an environmentally accountable society. The courses offer students an opportunity to understand and identify local and global questions around sustainability which are related to the wellbeing of all nations and the environments at the present time, as well as in the future. The aim of the minor in Sustainable Development Studies Program is to generate actionable impact and interest among students in moving toward a more sustainable way of life, as well as to prepare them to take part in, influence, and function together with different people in multicultural communities. Students in the minor will also understand how University of Liberal Arts Bangladesh attempts to promote sustainable development in its own operations. The minor program is coordinated by the Center for Sustainable Development (CSD).

### Contributing to Sustainable Solutions

This minor program is aimed at students who want to contribute to the design of the solutions needed to achieve an environmentally and socially accountable society. In this program, students will learn how to analyze the processes associated with change and will consider the short and long term management of these processes on local and global levels.

### Multidisciplinary Perspectives

This program is suitable for students who want to study and solve societal sustainability issues from a multidisciplinary perspective. The program is of particular interest to students who are willing to broaden their perspectives through collaboration and interaction with students who bring to the program knowledge of other natural and social science disciplines.

## Focus Areas of the Minor

Sustainable Development and Environment

- *Introduction to Sustainable Development, Environmental Science*

Climate Change and Ecosystems

- *Introduction to Climate Change Debate and Biodiversity & Nature Conservation*

Sustainable Development Applications

- *Organic Farming, Introduction to Community Development and Social Theory and Methods of Social research, Seminar on Grassroots Development*

## Topics Cover Include

- Sustainable Development: history, concept, principles, critiques, nature, promotion, measurement, and social dimensions of SD
- Responsible business and entrepreneurship
- Political Ecology: challenging narratives of environmental degradation
- Natural Resource Management: theory, application, biodiversity conservation and sustainable development
- Climate Change: cause, effect, future projections, mitigation, international negotiations and threats to developing countries; adaptation responses and plans
- Environmental and social impact assessment
- Community Development: history, traditions, ownership, social structures campus sustainability, leadership development, socio-economic development mechanisms
- Research Methodology: process, design, data collection, sampling, ethical issues, analysis, and proposal writing.

# 3rd ANNUAL CSD SUSTAINABILITY CONFERENCE OVERVIEW

## Integrating Sustainability Research into Policy and Practice: Collaborations for Change

**Dr. Shantanu Kumar Saha, Assistant Professor**
Center for Sustainable Development, ULAB

The 3rd Annual CSD Sustainability Conference was held on 20 – 21st October, 2018 and focused on the theme – "Collaborations for Change: Integrating Sustainability Research into Policy and Practice," which aimed to bring together local and international experts from across the globe to share and learn about transdisciplinary research within the scope of sustainable development issues and progress.

Delegates from ten different countries and national academics and researchers presented their research to policy makers, students and civil society leaders, as well as participated in discussion panels and workshops at this two days long conference.


Among the distinguished guests Prof Vassiliki Koubi of ETH Zurich, IPCC lead author, was the keynote speaker for this conference. Another renowned international scholar Professor Stephen Cairns of ETH Zurich and Singapore's ETH Center chaired a session where a panel of leading researchers from ETH Center, discussed the problems and opportunities emerging from new visions of future sustainable cities. Dr. Kasia Paprocki, Assistant Professor, Department of Geography and Environment, London School of Economics and Political Science, gave her speech on Political ecologies of Climate Change and the way to recognize climate change; Dr. Bhaskar Bhatt, Associate Dean and Program Director of Product Innovation, Indian School of Design and Innovation, Mumbai talked about building innovations in sustainability and Emeritus Professor of Environment Dr. Carolyn Roberts from Gresham College, London was the closing speaker.

Among the national distinguished scholars - former Governor of the Bank of Bangladesh, Dr. Atiur Rahman, conducted an extensive session on the new green economy, which must be established if the Paris targets are to be achieved. Dr. Saleemul Huq, Director, International Center for Climate Change and Development (ICCCAD) presided over a session where some of the country's leading development experts discussed key issues surrounding the importance of project design and implementation in addressing sustainable challenges.


*Presenting CSD's newly published work, The Environmental Sustainable Development Goals in Bangladesh.*

A total of 50 number of high quality talks were given, and a poster competition also allowed students of different universities to present their research work to a national and international audience. A workshop was organized focusing on youth activity, where students put their minds to know how schools and universities could do their part in achieving the SDGs. Many interesting issues and recommendations resulted from the discussions at the conference, most notably are those listed below:

## Climate Change and Migration

- The coastal communities are heavily dependent on the environment to earn their livelihood, therefore, rapid climate change would increase the number of environmental migrants.
- Maladaptation to climate change is all too common where poor people do what they can to survive from one day to the next.
- Migration from affected areas should not be viewed as possible strategy in every cases. Sometimes migration causes local political unrest, therefore, successful adaptation strategies should avoid migration.
- Gendered impacts of migration are absolutely crucial for ensuring sustainable responses. Hence, the gender norms should be improvised to the benefits of both genders. In this regard, participatory strategies need to be developed to abolish gender inequalities.

- Climate linked social protection policies such as crop insurance, microfinance can help ease the situation for those women who stayed back. Policy makers should address and find solutions to the vulnerability associated with immobilization through adaptation plans.
- Another important cause of vulnerability in coastal areas is its lack of resilient infrastructure, particularly electricity. But there is a huge potential for decentralised renewable power sources for both adaptation purposes and development. The wind power plants along with the solar power installation will have a huge potential to increase the local economy.
- Effective and prompt government aid in the aftermath of disasters and social safety nets can play a key role in enhancing resilience and speeding recovery.
- Need improved crisis communication system by ensuring full community engagement with government communications through social media, so that communities are fully briefed on the potential implications of specific weather events and their impact ahead of a future crisis.
- Lessons from national and international cases should be taken into consideration. And, good local adaptation strategies both on water and land like desalination and construction of new houses with higher elevation should be given more attention.


## Urban Sustainability

- New and effective urban solutions are required to optimize the use of green, blue and public spaces and energy resources leading to improvements in human welfare and the environment.
- Understanding urbanization from the empirical evidence of agricultural land conversion is important for sustainable city planning and management.
- It is important to understand the legacy of the urban-rural binary in conceptualizing urbanization in Bangladesh and there is need to develop a conceptual understanding of hybrid urban-rural developments in Bangladesh.
- State-led policy can be made keeping a number of alternatives that typically focus on lower-impact environmental strategies with strong encouragement for local resident participations' and relatively limited involvement from government.
- National level strategies implication and arrangement of appropriate monitoring program by government is needed for sustainable urbanization in Dhaka city of Bangladesh.
- Appropriate management of transport sector should be the priority action area for sustainable development in Dhaka city. Traffic noise levels should be reduced.
- By improving the portion of walking and bicycling, capita emissions of greenhouse gases can be reduced.
- The cultural ecosystem services and non-material benefits that people obtain from the green spaces should be given priorities while making policies.
- Heterogenous perceptions are necessary to reliably apprise city planners for developing sustainable urban development solutions.
- The residents of Dhaka city need to realize their role of making the city sustainable because sustainable urbanization is largely depend on citizens' discharging their duties in using the material growth of a city with the appropriate use of their non-material culture.
- Finally, proper creation and management of public space, incorporation of social perceptions to urban strategy, proper management of transport sector, and practicing appropriate nonmaterial culture are some of the key sector where more improvements are needed.


## Green Economy

- Bangladesh need to reduce environmental risks through promoting "Green Industry" via new policy making, improving production process, efficient productivity through reduction in energy and water use.
- There should be a coordinated and conscious effort to work towards promoting more green business in Bangladesh. There is an urgency of taking initiatives and not just planning. The small entities should be given incentives to encourage green business.
- The agricultural sector is going through a massive change as many young bright entrepreneurs are coming into the sector. More and more students are getting interested in agri-business but still many fresh graduates or current students need guidance on agro-business.
- The universities could be the meeting point for enhancing coordination between the young potential entrepreneurs with the market. Government should have an innovation fund in a large scale provided to the university so that it inspired young entrepreneurs to work towards innovation and get rewarded.
- Bangladesh needs to create a market of jute not only for the international market, but also for national consumption because jute has many reasons to make contribution to sustainability both locally and globally. However, high valued jute fabrics as well as the shortage of skilled man power to produce high end jute products are the major challenges for Bangladesh. We can make jute popular among the mass through awareness initiatives.
- Some of the challenges that is hindering renewable energy sector is that many of us are not aware of the potential of green businesses and the potential return in the long run. Consumers must look at the long-term return of changing behaviour and choosing a more environment friendly product.


## Natural Resource Management

- Forced migration is creating problems such as environmental crisis in the migrated country. One of the current issues in Rohingya camp of Cox's Bazar, Bangladesh is the firewood crisis. The migrated Rohingya people were using wood to make fire for cooking. But it's making a huge impact because they were destroying the natural resources in the process.
- For environment conservation and development, it is important to include people and society as a whole. Individuals, communities and policy makers need to change behaviour and make policy changes that will reduce environmental degradation, halt biodiversity loss and allow for sustainable development.
- For sustainable development we need socio-ecological approaches in addressing NRM, as well as nature based solutions for climate change adaptation and mitigation, ecosystem based management.
- We should promoting Sustainable Livelihoods that address NRM and biodiversity conservation through use of education, civic engagement and/or citizen science for engaging people in conservation.
- Setting of insect based food processing industry in Bangladesh can help in securing higher nutrition for the ethnic people and other people as well.
- Awareness and motivation training on fishing rules and practices make people aware for the conservation of fishes in the mangroves.
- Critically endangered species could be conserved efficiently through and improved reporting system in a time specific manner.
- There is urgent need to ensure easy and simple certification process for the community enterprise.

## Youth Leadership and Sustainability Workshop

- Young people today are not just recipients of knowledge and values; they have become agents of change through their social awareness and knowledge in new technologies. It is believed that young people have the potential to design sustainable initiatives in their educational institutions, homes and communities.
- The higher education institutions can acts as agents in promoting the role of universities in achieving the Sustainable Development Goals within society. The role of Campus Sustainability in achieving SDGs, implementing compulsory course on "Sustainable Development" and the role of Youth Leadership to implement Sustainability both at campus and outside is a major area where more attention should be given.
- Start recycling water at the different public and permanent campus of the private universities
- Start using LED bulb and sensor taps, if possible solar power panel in small scale
- Implement meatless Monday/or any other day at the canteen
- Start using digital display screen for banner/poster/event news instead of printing
- Implement rainwater harvesting system at the public and permanent campus of the private universities
- Beside the regular course studies there should be some courses on road safety and local act which all students should know.
- Start using color coded bin to identify separate garbage and practice a proper solid waste management techniques.
- Arrange more events/competitions/workshops and lessons learning activities on sustainable development to create the awareness on balancing the combination of people, planet and profit.

## Sustainability in Project Design and Implementation

- The learning and the mistakes from the previous implementations make a new project more successful. An ideal project design must start with the previous learning of other projects and the project managers and the partner organizations.
- Individual stories and the community based organizational approaches are more helpful to attain significant changes during the project time.
- Nowadays the citizens are more aware of their rights and their surroundings. So they demand more of the government's involvement which is a new aspect for the country. The local people want more involvement of the government rather than just NGOs
- There is a need to change the attitude of the rural people with regard to relief oriented mentality during disasters and the skepticism of them towards the government.
- Coaching and mentoring help participants to make plans to meet their goals, it also helps encouraging certain behavioral changes and offers guidance on how to address specific problems they faced.

The 3rd Annual CSD Conference aimed to identify key knowledge gaps and solutions; it also sought to facilitate the uptake of these new results into practice at the local, national and international policy level. Addressing all seventeen Sustainable Development Goals was beyond the scope of the two day meeting, but key areas covered included natural resource management, climate-induced migration of farmers to the city, planning and green architecture to ensure the future of megacities such as Dhaka, and prospect of green economy in Bangladesh. The recommendations and outcomes for the conference are now being prepared for dissemination through policy briefs and publications.

**ACKNOWLEDGEMENT**

The 3rd Annual CSD Conference on Sustainable Development 2018 was hosted by ULAB in conjunction with international and local sponsors. We would like to once again extend our gratitude and thanks to those organizations which supported and worked with us in presenting our most successful conference yet.

## Higher Education & Sustainability: Realigning Action & Values

**Sam Flomenhoft, B.S. Mathematics**
Brown University

Climate change and environmental degradation present the most pressing global issues to humanity today and in the foreseeable future. In turn, Bangladesh and other nations around the world are responding to this problem through government action such as the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and the Paris Accords, but government action alone is not enough. To effectively combat climate change, measures must be taken across all levels of society.

Currently, academics are the primary group actively working toward a solution to climate change, most notably in the form of extensive research. In-depth knowledge of the problem we face comprises an important step toward finding the solution. Knowledge without action, however, is ineffective. To resolve anthropogenic climate change and other environmental problems, we don't just need research; we need to establish an environmentally, socially, and economically sustainable society. To do so, universities can lead by example through the creation of sustainable operational procedures, the development of campuses and institutional communities which minimize the environmental footprint, and the promotion and practice of socially just policies.

Universities not only can lead society in establishing sustainable practices, but also have a responsibility to do so, in fact, research shows that universities benefit from existence within a sustainable community. How? Just as universities support the community around them by producing engaged citizens and guiding policy through in-depth research, the community supports the university through funding and provides the university with the faculty and student populations. If the societal structures surrounding a university are strained, the university will likely suffer as well. Unsustainable practices create unsustainable communities, which by definition inevitably will fail. Thus, it is in a university's best interest to help foster sustainable communities in surrounding towns and cities in order to protect against the threat of collapse.

Beyond an interest in self-preservation, universities across the globe champion a commitment to social progress. This can be found in the mission and vision statements of universities worldwide and in the continually developing notion of University Social Responsibility (USR), which features prominently in the World Declaration on Higher Education in the 21st Century drawn up at the World Conference of Higher Education organized by UNESCO in 1998. It is an idea similar to Corporate Social Responsibility and as outlined in article 2 of the Declaration states that, "higher education institutions and their personnel and students should…play a role in helping identify and address issues that affect the well-being of communities, nations, and global society."

A sustainable system is defined as "one which survives and persists "(Costanza and Patten, 1994). Any other system (or one which leans perilously towards collapse) is unethical because it enslaves its members to engage in activities, which are usually contrary to self-interest, in order to prevent its fall. For example, to produce goods and service

at low costs, free market capitalism feeds on the negligible wages it forces the world's impoverished to accept. A system that non-consensually restricts the freedoms of the individuals partaking in it violates a basic, inalienable human right, the right of liberty, essentially renders the system immoral. The all-encompassing unsustainability of universities –stretching from unchecked contribution of greenhouse gases that cause global warming to inattention to the surrounding community's voice – disparages the moral code by which they should operate. Universities must realign their actions with their values and take a lead in sustainability.

In 2018, the Education Ministers of the Bologna Process (a council committed to reevaluating and redirecting university social action) established the Paris Communiqué, which linked university social responsibility directly to sustainability, calling for academic institutions to secure "a sustainable future for our planet through higher education." To follow through on their stated commitment to social improvement, universities must understand that it is imperative to take a stand for sustainability, and to some extent they have—in the form of the written documents such as those mentioned above. Still, studies find that the agreements intended to generate action and move toward sustainability have not resulted in significant progress at many universities (Bekessy 2007). Pledging to pursue a more sustainable university ultimately means very little if the school fails to follow through with targeted and direct action.

Higher education must follow through with visible changes in their practices and aim to produce data revealing their improved sustainability. If this is not achieved, universities fall short of their social responsibility, an outcome which we as a society cannot accept. Theoretically, universities are among the greatest and noblest institutions in their communities. They are the centers of humanity's greatest asset – logic and knowledge. They espouse theories of ethics and human rights and represent microcosms of the ideal society – a community of people with diverging interests, not only peacefully coexisting, but supporting each other in their search for the advancement of their fields and ultimately all of mankind. This is the standard to which universities should be held. Such an organization – an emblem of the goodness in people – should not fail to fulfill promises of coming sustainability. And furthermore, such an organization should not reside in a state of unsustainability, because unsustainability is, in fact, unethical.

While the majority of universities have yet to display leadership in sustainability, there are those that have become trail blazers. Beginning in 1996, the Technical University of Catalonia (UPC) demonstrated action which has revealed their genuine commitment to sustainable development. Initially, UPC incorporated sustainability as a crucial component of documentation. Then, they developed two environmental plans to embed sustainability throughout university culture and practices. These plans were intended to encourage "integrated research, education, and operations in a comprehensive strategy" so that the concept and practices of sustainability in different sections of the university and surrounding community – research, education, campus life, professionals and society – would positively reinforce one another. This positive reinforcement marks a critical aspect of sustainability. Historically academic thought has often deconstructed the different mechanisms and agents within a system and studied them individually to indicate how the whole system works. While focusing on single parts makes each piece simpler to study and often reveals important information, it has often led to ignorance of the intricate ways these pieces interact and affect each other, leaving an incomplete view of the system at hand. Scholars of sustainability have noticed this trend and have remedied it by placing a focus on the interplay between components of the larger picture. Hence, UPC's commitment to making sure the various sections of the larger community support each other is one of the main components of their plan.

Similarly, the University of Luneburg in Germany, is currently implementing the Luneburg Sustainable University Project, which focuses on creating sustainable relationships between governance/administration, curriculum/student opportunities, research/scholarship, and operations as well as establishing sustainable practices within each of these subgroups. While positive that these universities are participating in sustainable leadership, they are part of a minority of institutions worldwide. The instances of UPC and the University of Luneburg are encouraging; they show that institutions of higher education can successfully focus on sustainable development and leadership.

Sustainability needs to be prioritized by schools around the world. The contributions from institutions everywhere are crucial, but climate change and environmental degradation threaten the economies and societies of South Asia more imminently than anywhere else on the globe. Bangladesh in particular is already experiencing the early troubles of climate change, ranked as the country sixth most affected by it today. As sea levels continue to climb, projections warn that large areas of land in Bangladesh will be swallowed by the ocean. Hence, it is imperative that universities on the Asian sub-continent not only add their voices and resources to the movement but take a lead in sustainability. With environmental, social, and economic perils looming, the University of Liberal Arts Bangladesh (ULAB) has outlined an ambitious project that will help launch the university into standings with institutional leaders in sustainability around the world. The project engages stakeholders at all levels of the school and takes a holistic approach, addressing not only operational, but academic and cultural sustainability as well. ULAB plans to reduce their carbon footprint and environmental impact through the ULAB Strategic Plan which culminates in 2023 and aims to reduce energy and water consumption by 50 percent, carbon emission by 40 percent, recycling waste by 80 percent, and further develop guidance in constructing new buildings.

Sustainability cannot be achieved by simply making changes at the administrative level in universities or in society. It must be a commitment made by the entire community for it to have any hope of success. Thus, while it remains an important component, the Greening ULAB initiative does not just attempt to improve and create sustainable facilities, its ultimate goal is to create a sustainable community in which members have a conscious commitment to sustainable practices in all aspects of their lives. Greening ULAB holds great potential for major advancements in campus sustainability and the university's ability to lead other institutions of higher education in South Asia and around the globe in social progress. ULAB's pursuit of sustainability is honorable and crucial; it must not only continue but intensify. Sustainability should be as widely promoted as possible with an increase in creative ways to involve students in the process. Greening ULAB represents a hope for the future of the university, the future of higher academics, and of all humanity. It is the first step in getting other universities in South Asia and other parts of the world involved in fulfilling their social responsibility and taking a lead on sustainability.

## 4th Climate Change Symposium: *Effects of Climate Change on the World's Oceans* (ECCWO)

*Washington D.C., United States of America*


Dr. Samiya Selim, Director of the Center for Sustainable Development (ULAB) was invited to present her paper "Evidence Of Ecosystem Based Adaptation To Climate Change In Coastal Bangladesh" at the 4th International Symposium: *Effect of Climate Change on the World's Oceans*, which took place in Washington D.C. January 12-14, 2018.

This symposium brought together more than 600 of the world's current and next-generation scientists, policy makers, and students from over 50 countries to share information, build understanding, and to advance responses to climate impacts on oceans and the many people, businesses, and communities that depend on them.

Dr. Selim also participated in the workshop, "Climate Change Adaptation of Fisheries and Aquaculture," which looked at examples of field projects currently supporting countries and communities.

For outcomes of this workshop visit https://meetings.pices.int and visit the link for the Summer 2018 newsletter.

## Bangkok Annual Business and Social Science Conference 2018

*Bangkok, Thailand*

ULAB-CSD faculty member, Md. Shafiqul Islam, attended the Bangkok Annual Business and Social Science Conference 2018 (BABSSC) and presented his paper on "Perception of Drought and its Adaptation Measures- The Case of Northern Barind in Bangladesh."

This year the conference was held at the Asian Institute of Science and Technology from 12-14th of January, 2018.


*The presentation of "Perception of Drought and its Adaptation Measures- The Case of Northern Barind in Bangladesh."*

*Delegates from Bangladesh, Bhutan, Nepal, Pakistan, Japan, Indonesia, Korea, India, Malaysia, Thailand and Australia also participated in this conference.*

## The Impact of Climate Change on the Global Economy

*London, United Kingdom*

ULAB-CSD Research Fellow Dr. Oliver Scanlan recently gave a lecture on the impact of Climate Change on the Global Economy at a short professional course organised by the United Nations Environment Programme.

The course, "Climate Change and Security: Towards a Greener Peace," took place in London from 26-20th of November, 2018 and was co-organised by the International Centre for Parliamentary Studies. Course participants included representatives from the Governments of the UK, Sweden, Belgium and Croatia, and members of international civil society organisations, including ClientEarth, the German Red Cross and the African Development Trust.

The core of Dr. Scanlan's presentation focused on the evolution of Integrated Assessment Models (IAMs) and their role in the academic debate over climate change's impact on the global economy.

Oliver illustrated the different controversies inherent in the use of such models with the example of the interplay between the economists William Nordhaus, Nicholas Stern, Christopher Dietz, and Martin Weitzman. This highlights the importance of specific judgements, particularly damages functions and the use of social discounting, to overall academic conclusions and, therefore, policy recommendations concerning climate change.

Dr. Scanlan also covered additional relevant issues, including systemic risks to the financial sector and food security, that while not adequately integrated into the current academic debate, remain crucial to the economics of climate change.

## IMBER Human Dimension Working Group Annual Meeting 2018

*Stockholm, Sweden*

Dr. Samiya Selim sits on the IMBER Human Dimension Working Group which focuses on the interactions between human and ocean systems. Its motivation stems from the recognition that humans not only influence ocean systems, but also depend on ocean systems for goods and services.

The Human Dimension Working Group's goal is to promote an understanding of the multiple feedbacks between human and ocean systems, and to clarify what human institutions can do, either to mitigate anthropogenic perturbations of the ocean system, or to adapt to such changes. The annual meeting, held at the Stockholm Resilience Centre in Sweden on 7-9th November 2018 provided the opportunity for Dr. Selim to continue collaborating with partners from eight other institutes across the world on sustainable aquaculture, inequality in knowledge production on marine sciences and small scale fisheries.

Visit www.IMBER.info for more information on international working groups.

## South Asia Ventures 2018 - Innovative Leadership Development

*Mumbai, India & Dhaka, Bangladesh*

Dr. Samiya Selim was invited to participate in the South Asia Venture Programme 2018. This is an annual two-part leadership development program which brings together exceptional emerging leaders from across all South Asian nations. The aim is to develop a common platform where these individuals could come to work together in order to address pressing issues relevant to the region. The challenge for 2018 was: How can we use technological innovation to accelerate access to education in South Asia? The 1st part of the event took place in Mumbai, India and the 2nd part took part in Bangladesh and was hosted by University of Liberal Arts Bangladesh (ULAB). The program brought in several leaders from across the cities of Mumbai and Dhaka to share their experiences of adaptive leadership and practicing cultural intelligence. Following the program, Dr. Selim has been in touch with Professor Bhaskar Bhatt, one of the leaders she met in India and is planning future collaboration between ISDI and ULAB.


For more information on this innovative leadership development programme visit https://commonpurpose.org.

## Water Initiative South Asia (WISA) Workshop

*Istanbul, Turkey*

The Water Initiative South Asia (WISA) is a three year project of the British Council to promote and establish research collaboration between UK and south Asian countries. The objective of the project is to tackle water related challenges and find out the solutions in countries of the region. The second workshop was organized in partnership with the Imperial College London.

Md. Shafiqul Islam, Assistant Professor, Center for Sustainable Development, University of Liberal Arts Bangladesh was awarded a scholarship from Imperial college of London to attend the WISA Workshop from 19-26 July, 2018 held in Istanbul, Turkey.

Delegates from Bangladesh, India, Nepal, Bhutan, Pakistan, Afghanistan, United Kingdom, Indonesia, Turkey, Iran, Malaysia and Sri Lanka were participated in the workshop. The purpose of the workshop was to bring together the key experts including academia, researchers, scientists, policy makers as well as managers of corporations and research institutions. The major theme of the workshop was research collaboration and academic writing in the field of water-related challenges and possible solutions.

*Group photo of the WISA Workshop participants.*

# New Publication Round-Up for 2018

## Journal Articles

Sultana, R., Alam, M. S., & Sheikh, A. H. (2018). Exploring the Nexus Between the River Padma and its Bank Dwellers along Rajshahi City. *Journal of Life and Earth Science, 12*, 28-39.

Islam, M. S. (2018). Mobile Toilet and Fecal Sludge Management in Dhaka City: User Perspectives and People's Perception. *Australian Academy of Business and Economic Review (AABER)*, 4(3), 175-187.

### Book

Selim, S. A., Saha, S. K., Sultana, R., & Roberts, C. (2018). *The Environmental Sustainable Development Goals in Bangladesh.* London, UK: Routledge.

### Book Chapters

Bhowmik, J., Saha, S. K. & Roberts, C. (2018). [Introduction]. In S. A. Selim, S. K. Saha, R. Sultana, & C. Roberts (Eds.), *The Environmental Sustainable Development Goals in Bangladesh* (pp. 1-14). London, UK: Routledge.

Islam, M. S. & Roberts, C. (2018). Exploring Local Drought and Adaptation Measures in the Northwest Region of Bangladesh. In S. A. Selim, S. K. Saha, R. Sultana, & C. Roberts (Eds.), *The Environmental Sustainable Development Goals in Bangladesh* (pp. 83-95). London, UK: Routledge.

Sultana, R., Alam, M. S., & Selim, S. A. (2018). Household Level Coping Strategies for Flood Disaster: A Study on Padma River Islands of Bangladesh. In S. A. Selim, S. K. Saha, R. Sultana, & C. Roberts (Eds.), *The Environmental Sustainable Development Goals in Bangladesh* (pp. 96-112). London, UK: Routledge.

Chakravarty, S., Saha, S. K. & Selim, S. A. (2018). Meanings, Opportunities and Challenges of Cultural Ecosystem Services-based Coastal Management in the Sundarbans Mangroves, Bangladesh: management priorities for achieving SDGs 14 and 15. In S. A. Selim, S. K. Saha, R. Sultana, & C. Roberts (Eds.), *The Environmental Sustainable Development Goals in Bangladesh* (pp. 115-131). London, UK: Routledge.

Kabir, K. H., Aftab, S. & Saha, S. K. (2018). Marine Spatial Data Infrastructure for the Sustainable Management of Mangroves in Bangladesh: Opportunities and Challenges. In S. A. Selim, S. K. Saha, R. Sultana, & C. Roberts (Eds.), *The Environmental Sustainable Development Goals in Bangladesh* (pp. 143-155). London, UK: Routledge.

Islam, M. S., Nasreen, M. and Huq, H. (2018). Is Groundwater Table Depleting in Barind Tract Over Time? In *Drought Management and Desertification Control: Still Miles to Go* (pp. 1-15). New Delhi, India: NAM S&T Centre.

Islam, M. S. (2018). Community Development Through Promoting Ecotourism in Mangrove Areas of Bangladesh. In S. Srivastava (Ed.), *Conservation and Promotion of Heritage Tourism* (pp. 155-179). Hershey, PA: IGI Global.

### Policy Briefs

Bhowmik J., Selim S. A. and Huq. S. (2017). The Role of Universities in Achieving the Sustainable Development Goals. CSD-ULAB and ICCCAD Policy Brief. ULAB, Dhaka

Pilat, A. L. & and Selim, S. A. (2018). Introduction to The Circular Economy. ICCCAD and CSD-ULAB Policy Brief. Dhaka.


ULAB
UNIVERSITY OF LIBERAL ARTS BANGLADESH

**University of Liberal Arts Bangladesh**
House: 56, Road: 4/A, Dhanmondi, Dhaka-1209, Bangladesh
Phone: 9661301, 9661255, 01713 091936, 01730 082197
Fax: 88-02-9660610, www.ulab.edu.bd, facebook.com/ULABian



Graphic Designer: Kapil Roy