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# Prospect of Sustainability Course for Student's Engagement in ESD

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**Abstract.** Educating and preparing young graduates with an action-oriented education program is the prime requirement for any country. Therefore, the Sustainability course is designed to develop resource persons to fulfill the immediate country's demand for adequate ESD (Education for Sustainable Development) skilled graduates. Currently Bangladesh is thriving for Sustainable Development Goals (SDGs) by implementing the sustainability practices into the educational institutions. However, IUBAT is the pioneer for setting the sustainability course in undergraduate studies for any disciplines. Since today more than 10,000 undergrad students of the different disciplines have been taught the sustainability course where they engaged and practiced for any environmental degradation and resource conservation. Moreover, these students also spreading their sustainability knowledge and practices going to secondary and higher secondary school and colleges as a part of course assignments. Meanwhile IUBAT is a Green Campus, therefore students can practice for ESD with the appropriate green facilities. The aim of this paper is to disseminate the knowledge sharing that IUBAT leads introducing sustainability education at undergraduate level. This also highlights how IUBAT students are dedicated to participate and practicing for sustainable education for their lifelong learning which ultimately supports a nation's dream of achieving SDGs by 2030.

### Keyword:

Education for Sustainable Development (ESD), Sustainability, Sustainable Development Goals (SDG's), IUBAT.

## 1. Introduction

Current approaches to sustainability education focused on (assessing and addressing) the external world of ecosystems, wider socio-economic structures, technology and governance dynamics [1]. Sustainability is a concept, a goal, and a strategy. The concept speaks to the reconciliation of social justice, ecological integrity and the wellbeing of all living systems on the planet. The goal is to create an ecologically and socially just world within the means of nature without compromising future generations [2-4]. Sustainability also refers to the process or strategy of moving towards a sustainable future [5-7]. It refers that universities have the potential to be leaders in teaching and learning, and community engagement for the movement of preventing global ecological collapse [8]. Although the goals of sustainability can be tackled from a variety of perspectives, a systematic means of understanding and implementing appropriate actions remains an area of concern. One promising approach is the use of systems thinking as a practical and pedagogical framework [9-10]. The systems concept can help students to see how they are part of larger entities and how these larger entities include natural and manmade environments in a more encompassing whole [11]. Thus, systems thinking can help students appreciate the complexity and tensions behind sustainability-related issues and provide frameworks and tools for developing and implementing solutions. Despite increasing efforts to incorporate sustainability in curricula and practices of institutions of higher education, effective implementation remains challenging. [12].

Education can provide the skills required to cope with complex problems, such as the global sustainability challenges of our time [13-14]. This important and urgent role of education for sustainable development has been widely recognized [15]. For example, the United Nations' Global Action Program on Education for Sustainable Development aims to reorient education and learning toward enabling people to contribute to a sustainable future [16]. Similarly, the United Nations' 2030 Agenda for Sustainable Development lists quality education as one of its main goals [17]. The launch of this Agenda followed shortly after the UN Decade for Education for Sustainable Development [2005-2014; United Nations Educational, Scientific and Cultural Organization [18], which already advocated that all people should have the opportunity to benefit from education and learn the values, behavior and lifestyles required for a sustainable future [19]. During this time a vision on genuine sustainability was formulated, including education as a fundamental human right that is central to citizens' powers to transform current economical patterns of production, consumption and distribution to achieve greater environmental and social justice [20]. Although these UN initiatives have sparked the launching of many projects, some very impactful within a single or multiple institution [21], the overall success of these initiatives remains somewhat limited as the paradigm shift needed for transitions toward genuine sustainability has not been reached [22].

The integration of the concept and principles of sustainable development (SD) and education for sustainable development (ESD) into the higher education (HE) curricula is considered to be one of the organic dimensions of sustainability at universities [23]. Other dimensions or usually recognized domains in which higher education institutes (HEIs) can apply the concept of sustainability are research, facilities or campus operations, community outreach and the institutional framework [23]. Though all those are inseparable, they are not always analyzed holistically or in terms of their interrelations [25]. Thus, the process is both about integrating contents related to SD and about a teaching strategy that requires "a shift from teaching to learning" [24]. in enabling the learning environment. As stressed by

several researchers, ESD requires a holistic approach that is applied at both the level of the curriculum and of institutions and organizations [25]., thus touching “every aspect of education including planning, policy development, program implementation, curricula, teaching, learning, assessment, administration [25].

A critical review shows that the vast majority of sustainability education has, so far, focused on the external world of ecosystems, wider socioeconomic structures, and technology and governance dynamics. At the same time, a critical second aspect has been neglected: the inner dimensions of individuals [26]. More holistic pedagogies are urgently needed to address today’s challenges, as education is one of the most powerful and proven vehicles for sustainable development. In this context, education is both an end and a means, as expressed in the United Nation’s Sustainable Development Goals (SDGs) and, particularly, the new global education goal (SDG4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all [31].). To address current gaps, the concept of the inner or personal (sphere of) transformation has only recently received growing attention in both sustainability science and education [27]. Inner transformation, as used here, describes changes related to people’s mindsets, which are made up of their values, beliefs, worldviews and associated cognitive/emotional capacities (such as mindfulness, self-awareness, compassion and empathy), and thus involves changes in people’s consciousness [27].

The aim of this research is to highlight the Sustainability Course which is ‘Environmental Science and Sustainability’ introduced for undergraduate students since 2013 in IUBAT. This course is compulsory for most of the undergraduate disciplines and its objective is to disseminate the knowledge of suitability among the students. Attending the course, the students become aware about any environmental depletion and how to act properly to conserve this green earth. More likely the students are involved in different sustainability projects where they are working on education for sustainable development, waste management, environmental pollution and conservation. Adaptation these sustainable knowledge based on this course students are perceiving lifelong learning which they will apply going to the job market or become entrepreneur to build a sustainable society. However, this young generations will help to achieve the SDGs by 2030 practicing ESD all through their life long activities. Therefore, this is very much rational to introduce the sustainability course like IUBAT into the different universities which will ultimately stimulate the student’s engagement for the sustainability practices in the communities for dreaming the sustainable world.

## **2. Method**

This study not following any particular method instead its emphasizing IUBAT’s own sustainability practices among students and other communities based on sustainability course which is ENV-101: Environmental Science and Sustainability. This course is mandatory for all the disciplines which taught programs in IUBAT in the undergraduate levels. Therefore, it is a case study (research) which tries to highlight the insights of ESD among the students through this sustainability course.

## **3. Discussion**

IUBAT is the first private university in Bangladesh which starts its journey in 1991. Thinking the sustainability issue from the very beginning it tries to establish a permanent

green campus which was finally dreamt in 2003 having open campus on the bank of Turag River in Dhaka North. Shaping new campus IUBAT was trying to start a sustainability course for the undergrad students, but it took some years because in Bangladesh it was quite new about sustainability in the last few decades. Finally, IUBAT was successful to introduce sustainability course which is Environmental Science and Sustainability (ENV-101) in 2013. Till then this course has been adapted for all the discipline students (Fig. 1). It was a kind of milestone in the history of Bangladesh introducing sustainability course. The reason is that in 2013 we as a country we did not have any vision which came late in 2015 after achieving MDGs (Millennium Development Goals) by the proper announcement of UNDP. Therefore, it was great visionary leadership from IUBAT which understood significance building sustainable graduate teaching Education for sustainable Development (ESD) for building sustainable future generations who lead the sustainable communities in the country as a whole.

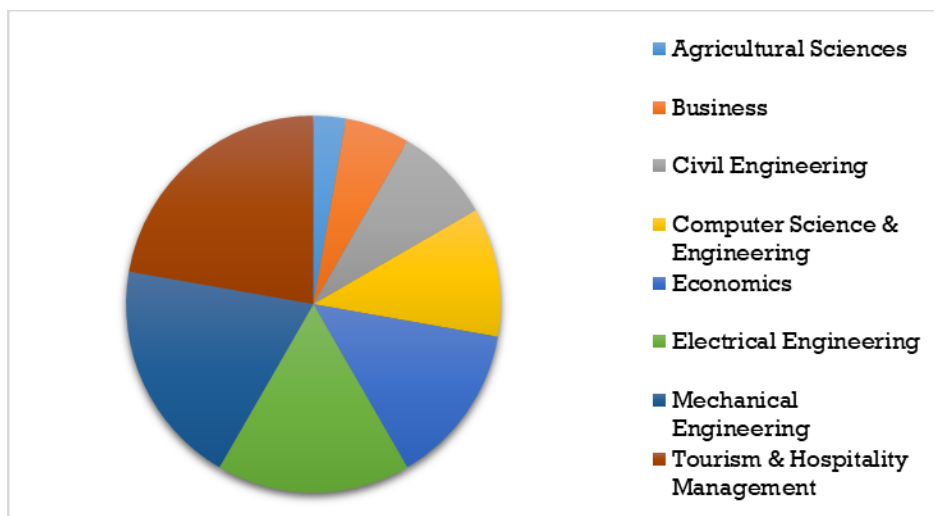


Figure 1. Sustainability Course Taught in Different Disciplines

Since 2013, a total number of 22 semesters (Fig. 2) have been completed teaching sustainability course which aimed to engage students into different environmental activities in the communities to implement sustainability knowledge for green practices. In this course students have been introduced the ESD that how ethics and values of moral can be integrated among communities for sustainable development. This sustainability course has been designed with 20-21 (Fig. 3) class lectures which covers a wide range of environmental education in respect of sustainable development. Before student’s engagements in the community level it has been ensured that students have been taught enough with practical tools which can be easily transmitted in to the community level for their lifelong learning. However, this course lectures are not limited to but covered the relevant and current happenings on this earth like COVID-19 the pandemic of the century.

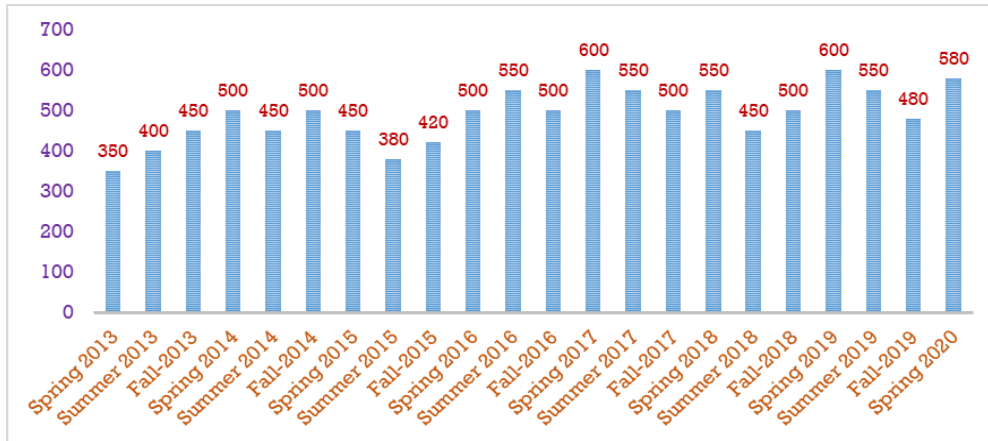


Figure 2. Semester Wise Enrolled for Sustainability Course for Different Disciplines

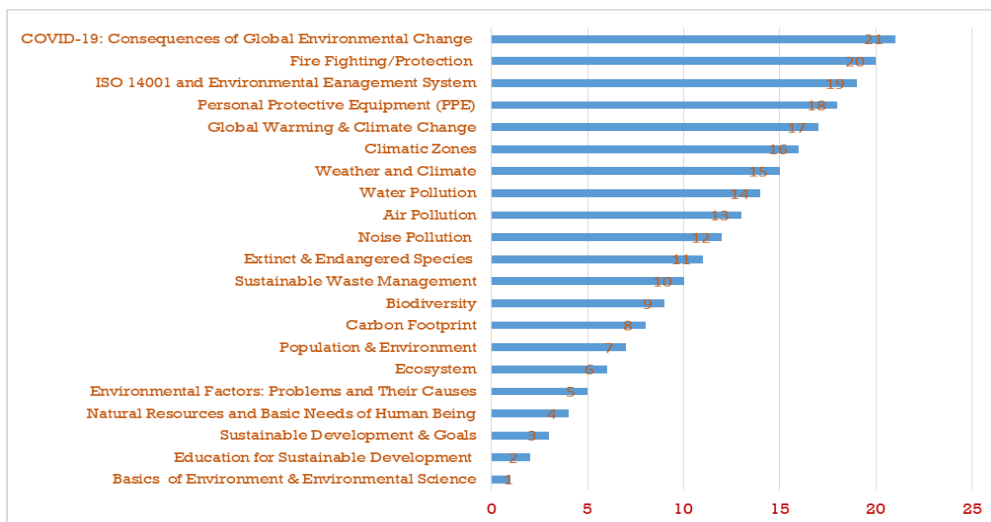


Figure 3. Topics Covered for this Sustainability Course in 21 Class Lectures

### 3.1 Students Engagements in Sustainability Activities

Bangladesh is aiming to achieving SDGs by 2030, therefore we need huge number of ESD skilled graduate who will practice ESD through their lifetime as well as they will contribute based on ESD knowledge to build sustainable society and community. This is how this sustainability course is designed to engage students into different social activities in respect of ESD. Each and every semester student are heavily engaged in different sustainability activities like knowledge sharing in the secondary schools, waste management, cleaning program, environmental projects, tree plantation, environmental fairs, social activities for better ESD practices and implementation in the community level. So far more than 10,000 students were successfully attended this sustainability course. However, they also transferred their sustainability knowledge based on ESD going to the secondary schools and their number is also more than ten thousand who received ESD training and practices from the IUBAT undergraduate students.

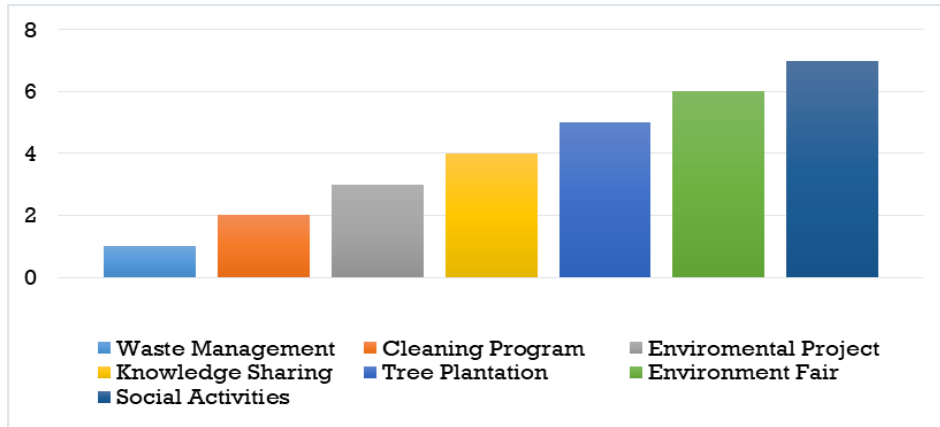


Figure 4. Student's Engagements in Different Environmental Activities

To implement the better practices of ESD each of the semester a certain number of the students randomly visit the different secondary schools to teach the school kids and students about the sustainability knowledge whatever they learnt from this ENV-101 course from IUBAT. Since ESD practices in the secondary schools still lacking, therefore IUBAT undergrad students are prevailed to transform the ESD into the real lifelong learning which will stimulate the sustainable future for the next generation where least environmental degradation will be ensured.

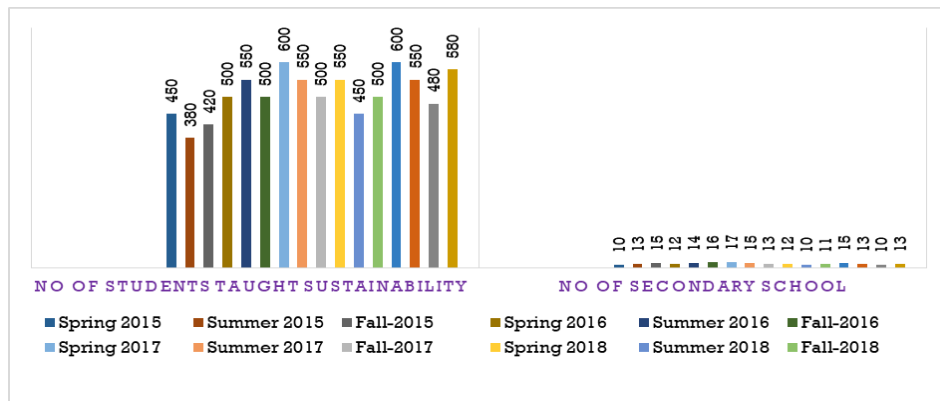


Figure 5. Different Discipline Students Taught Sustainability Course (ENV-101) in IUBAT

In addition, students are also engaged in plantation program into the different secondary schools. This practice of plantations helps students to understand the importance of the green environment. They also gather the knowledge that how an atmospheric condition could be created based on the different plantation level. However, the IUBAT ensured the green campus where students occupied with ample green facilities. The ration of the IUBAT infrastructure and open area is 30:70. However, more than 50 species of plants are available in IUBAT campus which indicates maximum level of green campus has been established where students are frequently interacting with this nature and learning about ESD which to be practiced in their lifetime for the sustainable future.

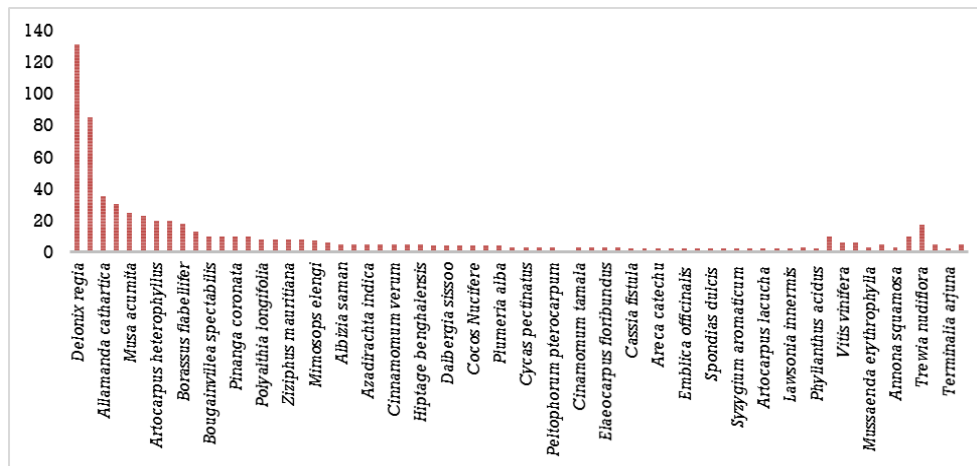


Figure 6. Green IUBAT Campus Enriched with Different Plant Species

#### 4. Conclusion

Achieving SDG is a great challenge for the developing countries like Bangladesh at least we think of the SDGs no 4 which states about quality education. But ESD could be the base line to achieve the other SDGs. Without producing sustainable graduates, it would be a night mare for the developing countries to achieve many of the SDGs. Therefore, it is very important to introduce and implement the ESD knowledge and practices into the different level of the educational institutions. Currently very few universities introduced the sustainability course in Bangladesh which is not enough for the way to sustainability. Therefore ESD is the very effective approach which able to bring positive sign way to sustainable development. That is why IUBAT has already implemented sustainability course where students are very much engaged into different environmental programs which lead to sustainability issue of the country's ambition to become developed country by 2041. This research evidenced that the student's engagement into the sustainability issue could bring the successful change in the community level by their knowledge sharing and lifelong learning.

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#### References

1. Wamsler, C. (2020). Education for sustainability. *International Journal of Sustainability in Higher Education*.
2. Cheang, C. C., So, W. M. W., Zhan, Y., & Tsoi, K. H. (2017). Education for sustainability using a campus eco-garden as a learning environment. *International Journal of Sustainability in Higher Education*.
3. Tangwanichagapong, S., Nitivattananon, V., Mohanty, B., & Visvanathan, C. (2017). Greening of a campus through waste management initiatives. *International Journal of Sustainability in Higher Education*.
4. Farinha, C., Caeiro, S., & Azeiteiro, U. (2019). Sustainability strategies in Portuguese higher education institutions: Commitments and practices from internal insights. *Sustainability*, 11(11), 3227.
5. Findler, F., Schönherr, N., Lozano, R., & Stacherl, B. (2019). Assessing the impacts of

- higher education institutions on sustainable development—an analysis of tools and indicators. *Sustainability*, 11(1), 59.
6. Purcell, W. M., Henriksen, H., & Spengler, J. D. (2019). Universities as the engine of transformational sustainability toward delivering the sustainable development goals. *International Journal of Sustainability in Higher Education*.
  7. Quental, N., Lourenco, J. M., & Da Silva, F. N. (2011). Sustainable development policy: goals, targets and political cycles. *Sustainable Development*, 19(1), 15-29.
  8. Moore, J. (2005). Barriers and pathways to creating sustainability education programs: policy, rhetoric and reality. *Environmental Education Research*, 11(5), 537-555.
  9. Hammond, M. (2012). Technologies and learning. *The Routledge companion to education*, 372-379.
  10. Waddock, S. (2008). Building a new institutional infrastructure for corporate responsibility. *Academy of Management perspectives*, 22(3), 87-108.
  11. MacIntosh, R., Bonnet, M., Marshall, J., & Reason, P. (2007). Quality in research as “taking an attitude of inquiry”. *Management Research News*.
  12. Eppinga, M. B., Lozano-Cosme, J., de Scisciolo, T., Arens, P., Santos, M. J., & Mijts, E. N. (2020). Putting sustainability research into practice on the university campus. *International Journal of Sustainability in Higher Education*.
  13. Leal Filho, W., Tripathi, S. K., Andrade Guerra, J. B. S. O. D., Giné-Garriga, R., Orlovic Lovren, V., & Willats, J. (2019). Using the sustainable development goals towards a better understanding of sustainability challenges. *International Journal of Sustainable Development & World Ecology*, 26(2), 179-190.
  14. Kopnina, H., & Cocis, A. (2017). Environmental education: Reflecting on application of environmental attitudes measuring scale in higher education students. *Education Sciences*, 7(3), 69.
  15. Chin, A., & Jacobsson, T. (2016). The Goals. org: mobile global education on the Sustainable Development Goals. *Journal of cleaner production*, 123, 227-229.
  16. UNESCO, E. (2015). Global action programme on education for sustainable development information folder.
  17. UNESCO, U. (2005). Decade of education for sustainable development: 2005-2014. Draft International Implementation Scheme.
  18. UNESCO, U. (2005). Decade of education for sustainable development: 2005-2014. Draft International Implementation Scheme.
  19. Huckle, J., & Wals, A. E. (2015). The UN Decade of Education for Sustainable Development: business as usual in the end. *Environmental Education Research*, 21(3), 491-505.
  20. Lovren, V. O., Maruna, M., & Stanarevic, S. (2020). Reflections on the learning objectives for sustainable development in the higher education curricula—three cases from the University of Belgrade. *International Journal of Sustainability in Higher Education*.
  21. Leal Filho, W., Wu, Y. C. J., Brandli, L. L., Avila, L. V., Azeiteiro, U. M., Caeiro, S., & Madruga, L. R. D. R. G. (2017). Identifying and overcoming obstacles to the implementation of sustainable development at universities. *Journal of Integrative Environmental Sciences*, 14(1), 93-108.
  22. Leal Filho, W., Azeiteiro, U., Alves, F., Pace, P., Mifsud, M., Brandli, L., & Disterheft, A. (2018). Reinvigorating the sustainable development research agenda: the role of the sustainable development goals (SDG). *International Journal of Sustainable Development & World Ecology*, 25(2), 131-142.



23. Tilbury, D. (2011). Higher education for sustainability: a global overview of commitment and progress. *Higher education in the world*, 4(1), 18-28.
24. McKeown, R., Hopkins, C. A., Rizi, R., & Chrystalbridge, M. (2002). *Education for sustainable development toolkit* (p. 2002). Knoxville: Energy, Environment and Resources Center, University of Tennessee.
25. Ives, C. D., & Kidwell, J. (2019). Religion and social values for sustainability. *Sustainability Science*, 14(5), 1355-1362.
26. Wamsler, C. (2020). Education for sustainability. *International Journal of Sustainability in Higher Education*.
27. O'Brien, K., & Leichenko, R. (2019). Toward an integrative discourse on climate change. *Dialogues in Human Geography*, 9 (1), 33-37.