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Introduction
The challenge of recognizing the need to live within constraints and to ensure more fairness in access to limited resources for current as well as for future generations, lies at the heart of the concepts of sustainability and sustainable development (SD). The World Summit on SD in Johannesburg in 2002 has set the Agenda 21 as a tool for achieving SD (UN-GA, 1992; UN, 2010; UN, 2002). As a follow up initiative, the UN General Assembly adopted the 2030 Agenda for Sustainable Development in 2015, which provides a shared blueprint for peace and prosperity for people and the planet.

Higher Education Institutions (HEIs) should catalyze and accelerate a societal transition toward sustainability by raising awareness among young generations about the SD concepts and giving them the skills and knowledge for better dealing with relevant issues and challenges (Damaj & Chaaban, 2011). This paper is aimed at analyzing some of the fundamental obstacles that hinder, on a global scale, efforts to implement sustainability at universities. The results of an international study to investigate the difficulties encountered in overcoming these obstacles are discussed, and relevant initiatives at the American University of Beirut (AUB) are highlighted as a case study.

Higher Education and SD Goals
The UN Agenda for SD constitutes 17 SDGs, which are an urgent call for action by all countries, both developed and developing, in a global partnership (UN, 2019). The 17 Goals and 169 targets came into effect in January 2016, and set 2030 as the date for implementation.

SDG 4 is focused on quality education, and calls for ensuring affordable, inclusive and equitable education and promoting lifelong learning opportunities for new generations. Obtaining a quality education is sought as the foundation to creating sustainable development. In addition to improving quality of life, access to quality education can help equip communities with the tools required to develop innovative solutions to the world’s problems.

Higher education can also contribute to most of the SDGs, particularly:

- Ending poverty (SDG 1);
- Health and well-being for all ages (SDG 3);
- Gender equality (SDG 5);
- Governance; decent work and economic growth (SDG 8);
- Responsible consumption and production patterns (SDG 12);
- Combating climate change and its impacts (SDG 13);
- and
- Peace, justice and strong institutions (SDG 16).

HEIs can implement sustainability concepts and translate them into practice through various curricular and extracurricular domains such as education and curricula, research, campus operations, community outreach, and management (UNESCO, 2009). HEI objectives, two decades into the 21st century, are required to be in complete alignment with the UN’s commitment to a Decade of Education for Sustainable Development 2005-2014, focused, amongst others, on promoting and improving quality education, at all levels. HEIs, at a global scale, are roughly grouped at three different levels of evolution:

Level 1: The principles of SD are yet to be universally understood, with no significant efforts towards promoting sustainability at university operations and no systematic initiatives for promoting SD concepts.

Level 2: The SD principles are widely understood and hence significant efforts are made towards promoting sustainability at university operations. In addition, various sustainability projects, alongside research and extension programs are being conducted.

Level 3: Universities that fulfill the level 2 requirements are further committed to sustainability on a long-term basis by means of relevant policies and projects, and by allocating senior staff to oversee its sustainability efforts. HEIs at this level have sustainability solidly embedded, both in terms of campus operations and in terms of institutional philosophy, academic programs, research, and in their way of thinking (Filho, 2010; Lozano et al. 2015).

Globally, the majority of HEIs are found at levels 1 and 2, and this illustrates the fact that there are many challenges still to be overcome before achieving a complete integration of SD in HEI structures.

Challenges, Obstacles and Opportunities

According to UNESCO, higher education needs to be consolidated in all agendas, programs and activities that promote SD, by addressing the SDGs, particularly those on climate change, poverty and sustainable production. They must also promote the integration of these critical sustainability issues in local and global contexts into the curriculum. The UN has identified the following challenges:

- Going beyond environmental education to reach education for sustainable development.
- Drawing up an inventory of what has been achieved, as many countries have carried out education for SD programs or activities. These have to be identified, results evaluated, and information disseminated, to facilitate the integration of this new vision of education into national plans.
- Mobilizing the media: the media represents a powerful means of raising awareness and information dissemination about the SD principles and values, as well as about promising experiences.
- Establishing partnerships and creating synergies among the initiatives and programs on national as well as international level (UN, 2005).

A comprehensive and multinational study has been carried out to shed light on the fundamental obstacles that hinder efforts to implement sustainability at HEIs. The study consisted of both a qualitative and a quantitative approach (Filho et al., 2017). The qualitative analysis identified 25 obstacles while the quantitative approach was conducted with the participation of 269 experts from 47 countries from September to October of 2016. The respondents were asked to express the degree of relevance for the 25 obstacles, from 1 (lowest) to 5 (highest).

Results show that with the exception of the “lack of support from the management” obstacle, most obstacles are considered in the same scale of importance, as shown in Table B1. The institutional reluctance to adopt SD initiatives is mainly due budget restrictions or lack of resources, despite that fact that various measures have been proven to provide a win-win opportunity such as reducing energy consumption in the campus.

Earlier investigations have been conducted in 2005 by Dawe et al (Dawe et al., 2005) to examine how different disciplines at HEIs have been contributing to the integration of SD into higher education. The five most common identified barriers are: crowded curricula, perceived irrelevance by academics, limited staff awareness and expertise, limited institutional commitment, and promotion criteria. These identified challenges also mean that many opportunities are presenting themselves, including:

- The sustainability debate has been supported by the climate change debate. The current degree of emphasis given to climate issues means that sustainability efforts may be regarded as an effective tool for combating climate change.
- Sustainability can be regarded as a unifying theme through which partnerships can be established between HEIs and government officials, local authorities, NGOs and the private sector.
- The UN Decade of Education for SD 2005-2014 offers an additional opportunity to integrate sustainability as part of the global efforts to improve the quality of HEIs.
- Developing programs that can prepare graduates with knowledge and values, critical thinking and the motivation to deal with diverse problems.
- Sustainability at HEIs facilitates interdisciplinary links, from health to ethics, from economics to social affairs, hence allowing a wider sense of awareness to be developed.

<table>
<thead>
<tr>
<th>Obstacles Grouped</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td>Lack of support from upper administration</td>
<td>3.95</td>
</tr>
<tr>
<td>Lack of appropriate technologies, awareness, research and development, and green buildings</td>
<td>2.61 – 2.79</td>
</tr>
<tr>
<td>Lack of interest from academic and staff, government institutional and social barriers, lack of legislations, and lack of training, planning, and incentives, and lack of partnership with private sector</td>
<td>2 – 2.5</td>
</tr>
<tr>
<td>Lack of continuity and follow up, lack of commitment, and lack of integration in teaching and research.</td>
<td>1.8 – 1.97</td>
</tr>
</tbody>
</table>
At the programs level, three categories of response to SD by discipline are identified. In what follows is a listing of some majors, knowing that these are averaged results that could vary from one region to another.

1- Disciplines that have adopted a major process of embedding SD curricula into undergraduate and postgraduate programs. Examples include:
- Engineering, Design and Materials
- Industrial Processes
- English and other languages
- Geography
- Earth and Environmental Sciences

2- Disciplines that have made some limited progress in integrating SD into their curricula. Examples include:
- Biosciences
- Economics
- Hospitality
- Leisure
- Sport and Tourism
- Philosophy and Religious Studies

3- Disciplines that have an interest in SD, but find it difficult to adopt SD widely or deeply into their curricula. Examples include:
- Information and Computer Sciences
- Mathematics
- Statistics and Operational Research
- Performing Arts
- Psychology

Conclusion
The lack of support of the administration constitutes the greatest obstacle to SD in higher education institutes. HEIs could benefit from the relevance and usefulness of SD issues not only in campus operations, but also in connecting with the lifelong learning of their employees and in the acquisition of knowledge, skills and values. The implementation of SD at universities needs an adaptation or a wider re-orientation of their curricula to take full advantage of the opportunities that sustainability offers. It is important that universities advance in overcoming the obstacles to implementing SD. Challenges to developing sustainable education in the region are numerous and mostly match those faced by universities in other parts of the world.

References


UN (2012). Inter-agency Assessment of SD 20 Years on from the Earth Summit, UN Report, March 2012.
