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Sustainable Practices in Educational Institutes of Bhopal, Madhya Pradesh

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Abstract: *The main aim of this work is to analyze the current state of implementation of sustainability development (SD) in Bhopal Madhya Pradesh Higher Education Institutions (HEIs).*
Design/methodology/approach – A questionnaire was developed to measure the level of implementation of SD practices in HEIs as well as the number of rankings, certifications and declarations of these institutions. The questionnaire was sent by e-mail to all rectors, presidents, directors of faculties, departments and schools of Bhopal.A sample of 25 leaders was obtained.
Findings – Bhopal HEIs are mainly engaged in the social dimension of sustainability. The economic dimension emerges in second place and the institutional in third; the environmental dimension is the least developed. Except for a few specific topics (e.g., related to research on SD, and the offer of degree courses in SD), there are no significant differences between universities and polytechnics in the implementation of SD practices

Keywords: Bhopal Madhya Pradesh Higher Education Institutions

I. INTRODUCTION

Since the Stockholm Conference in 1972, there has been a disproportionate number of initiatives, charters, and declarations promoting Sustainable Development (SD) in recent decades (UNEP, 1972). Higher education institutions (HEIs) have contributed to the growth of SD. More specifically, the environmental, social and cultural, economic, institutional, educational, and political dimensions of SD have been more actively integrated into their teaching, research, campus operations, community outreach, assessment, and reporting activities (e.g., Cortese, 2003, Lozano, 2006; see for this purpose Aleixo et al., 2016, and Lozano et al., 2015). This study aims to close the knowledge gap about Bhopal higher education leaders' perspectives of the SD programs, projects, and practices that are put into place in their organizations. Both subsystems were examined since Portuguese higher education is divided into universities and polytechnics, and previous studies have indicated that these institutions differ in how they apply SD methods. Is SD being implemented in Bhopal universities and polytechnics? This research question arises from the increased interest in SD among HEIs globally. This work represents the first attempt to close this gap in Bhopal literature.
In terms of the study's specific focus on Portuguese public higher education institutions, the findings contribute to a better understanding of the sustainability programs, policies, and techniques employed by these institutions, as well as their present status of SD implementation. They will also allow us to compare the SD practices utilized by Portuguese public polytechnics and universities to those of central and decentralized services.

II. REVIEW OF LITERATURE

Relevant research on HEIs' adoption of SD practices has been conducted in recent years (Hancock and Nuttman, 2014; Cebrian et al., 2015; Sammalisto et al., 2015; Too and Bajracharya, 2015; Dyer and Dyer, 2017). Furthermore, SD approaches have been used globally in a variety of contexts (such as environmental, economic, social, and institutional), as well as integrated into the primary functions of higher education institutions (such as education, research, operations, commitment involvement, and governance/culture) (Fischer et al., 2015).
Larrán Jorge et al. (2015) argue that HEIs' adoption of sustainable practices is mostly dependent on leadership, adding that "leadership may also be a driver when the leader sees transformation as a way to leave his or her legacy to the organization." As a result, several authors (e.g., Lozano, 2006, Alonso-Almeida et al., 2015, Larrán Jorge et al., 2015)

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agree that innovators can play an important role as change agents and innovators in their businesses. Other leaders may mimic them in order to acquire a competitive advantage.

While some researchers (Cortese, 2003; Lozano, 2006; Lozano et al., 2013b) claim that SD is implemented in all HEI systems, a holistic approach has not been taken because actions have been compartmentalized and applied to only one or two dimensions of the education system (Lozano et al., 2015). Furthermore, as illustrated by the American College & University Presidents' Climate Commitment (Dyer and Dyer, 2017), promoting sustainability in higher education institutions must become a strategic requirement rather than a collection of separate activities.

The literature (e.g., Waas et al., 2011, Goddemann et al., 2014, Amaral et al., 2015, Sammalisto et al., 2015) has highlighted three pillars of sustainable development: economic, social, and environmental. Other SD pillars, such as institutional (Lozano, 2008; Disterheft et al., 2013; Leal Filho et al., 2015) and cultural (Lozano, 2008; Disterheft et al., 2013; Leal Filho et al., 2015), are becoming more common. Meanwhile, four dimensions of SD—environmental, economic, social/cultural, and institutional/educational/political—have been proposed for sustainability practices and the application of SD in higher education institutions (e.g., Lozano, 2011, Alonso-Almeida et al., 2015, Larrán Jorge et al., 2015, Aleixo et al., 2016).

The economic component of SD addresses both economic demands (such as budgeting for SD-promoting activities, strategies to improve energy efficiency, and concerns about economic performance) and economic viability. The environmental component of SD suggests incorporating environmental considerations into the organization's overall plan, such as developing environmentally friendly structures on campus, segregating garbage and transporting it for recycling, and using renewable energy-producing equipment. The human resources department of a company or a local community might conduct initiatives that come within the social and cultural dimensions of development. Such acts include policies that support diversity and equality, developing and engaging in leisure, sports, or cultural events, addressing issues of social inclusion, and launching cultural.

Cortese (2003) identifies four SD activities for higher education institutions: education, research, campus operations, and community outreach. However, Lozano (2006) proposes including communication and disclosure of SD practices as a fifth activity (Lozano, 2006, Lozano, 2011, Lozano et al., 2013a, Lozano et al., 2013b). This fifth action involves HEIs communicating with multiple stakeholders through outreach, research, campus operations, education, and community awareness-building (for example, SD reports and evaluations).

SD education requires revision of learning objectives and curriculum reformulation, as well as the inclusion of SD concepts as a subject in all HEI courses and disciplines, workshops, conferences, and seminars. According to Stough et al. (2017), there are two approaches to incorporating sustainability into curricula: vertically, through specific sustainability-related courses, and horizontally, through several ordinary courses. According to Popescu and Beleau (2014), research activities encourage interdisciplinary research groups looking for a unique approach in a sustainable way, as well as studies on SD themes that address societal challenges.

To improve performance and eventually earn certifications, HEIs might make adjustments to their quality, environmental, and social responsibility systems. Notable examples of these improvements include Quality Management Systems (ISO 9001), Environmental Management Systems (EMS), and Social Responsibility Standards (SA8000 and ISO 26000), which are certified in each nation and have already been adopted by some HEIs (Disterheft et al., 2012).

In recent years, there has been an increasing discussion on the importance of HEI rankings and their contributions, as well as how they may give institutions with an advantage or distinguishing element.

According to Lukman et al. (2010), rankings show "where a specific university is leading, where it may be lagging, or what needs to be improved in order to achieve a better position." As a result, social responsibility, the importance and quality of scientific research, academic brilliance, and sustainability have evolved as essential differentiators and prestige markers for higher education institutions.

III. RESEARCH GAP

Educational institutes have been talking about green campus but yet have not implemented those practices fully.

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AIM AND OBJECTIVE

This study investigates the many sustainability factors that HEIs might employ to improve sustainability. Portuguese higher education institutions are beginning to study all aspects of SD and incorporating it into their policies, communication plans, and strategic plans. The majority of activities linked to these areas are still in the planning stages, nevertheless. These findings are consistent with the present body of knowledge, implying that this concept is still tied to institutions' ability to maintain financial viability (economic component). The environmental dimension consists of three major components: planning, waste management, and recycling.

The purpose of this paper is to help institutions layout implementation strategies of green campus

Methods

Survey design and procedures

A questionnaire was developed to collect data from HEIs leaders on the implementation of SD practices in their institutions. The HEIs' certifications and declarations on SD matters as well as the international rankings in which they participate were also addressed in the questionnaire

PARAMETER OF STUDY

Environmental dimension

This study considered all the universities and polytechnics in the Bhopal network of public HEIs. Therefore, the questionnaires targeted the leaders of Public Bhopal HEIs (rectors or presidents of each Portuguese public HEIs, and the directors of departments, faculties or schools). The survey was sent to 25 leaders, 5 of whom were rectors or presidents of HEIs and 20 directors of departments, faculties or schools. The sample includes 53 leaders, 18 (5%) of whom are rectors or presidents, and 35 (20%) are directors of departments, faculties or schools (see Table 3). The overall response rate of the study is 22.2%.

Statistical analysis

The degree to which SD techniques were adopted in Bhopal higher education institutions was described using descriptive statistics, namely mode (central tendency estimate) and frequency distribution tables. The Fisher's exact test was used to see if there were any differences in how polytechnics and universities implemented SD practices, as well as the information provided by directors of departments, faculties, or schools (decentralized services) and rectors/presidents (central services) (with a significance level of 5%; Fisher, 1990).

IV. DATA ANALYSIS AND FINDINGS

There are several factors that could explain this outcome. According to Vanognoni and Cavicchi (2015), a lack of management and staff support makes it impossible to implement sustainable and environmental management systems on campus.

According to Gonzalez-Gaudiano et al. (2016), a lack of commitment from senior management is another impediment to the implementation of sustainability in higher education institutions. In the Portuguese context, Aleixo et al. (2017b) identified 31 lack of initiative, commitment, and participation as restraints or barriers to sustainability.

Regarding practices promoting efficient water consumption (e.g., taps with timer function, flushes with less water, making use of rainwater), 22.6% of the HEIs had already fully implemented them and 34% are in the implementation phase; on the other hand, 37.7% say that this practice is not implemented, not designed but relevant to their HEIs.

Purchasing organic food for on campus preparation (62.3%), followed by encouraging the reduction of greenhouse gases (56.6%), promoting the use of ecological brands (52.8%), using equipment to generate renewable energy

Encouraging the use of sustainable transport for commuting to campus (e.g., bicycle, public transport, electric vehicles; 37.7%), promoting environmental volunteering activities (35.8%), promoting the reuse of materials.

Finally promoting the construction of sustainable buildings on campus and the conservation of biodiversity on and around the campus (both with 32.1%). These results reflect the importance that these themes present for the leaders of the institutions, although they are still not considered strategic.

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Lastly, a minority of leaders stated the following were not implemented, not planned and not relevant practices: purchasing organic food for on campus preparation and to promoting the use of ecological brands.

Higher education institutions in Bhopal exhibit varying levels of institutional, educational, and political development, with some being the least developed and others being the most developed. This suggests that separate activities have developed in distinct patterns. Within the institutional context of SD, a few leaders acknowledged that their organizations had begun to integrate SD into their communications. HEIs seek to communicate SD in institutional terms through their purpose, vision, and values, strategic goals and objectives, SD activities, and concern for ethical issues.The results thus strengthen the evidence already seen in Aleixo et al. (2016). Therefore, while the literature review acentuates the importance of the environmental dimension in HEIs, our results show that Bhopal HEIs give more emphasis to the economic and social dimensions.

90% of the SD practices analyzed show no significant differences between universities and polytechnic institutions, indicating that both are aware of their SD duties and have begun to progress in that direction. Universities have expanded their activities in terms of their abilities to acquire funds from contributions and private sources, conduct research or publish scientific works in the field of SD, and offer degrees, seminars, and workshops on the issue. Aleixo et al. (2016) also found that institutions reported a higher percentage of SD practices across all categories.

V. CONCLUSION

The institutional, educational and political dimension of SD in HEIs included items such as: SD included in the HEIs' mission, vision and values, strategic plans for SD, communicating SD activities, promoting the education of lecturers and professors in SD, and optative or mandatory curricula units on SD. The results of this dimension show great dispersion, with the same item having high levels of implementation in some HEIs and low level/no implementation in others. Nevertheless, the results of Table 8 clearly demonstrate that HEIs are concerned about ethical issues (e.g., code of ethics or code of behavior, ethics commission), and have transdisciplinary research units/centers; both these practices are fully implemented in of HEIs.

It is possible to observe that while universities are already benefiting from donations and private funding, or are in the phase of implementing this kind of project, polytechnics are delaying such projects or are having difficulties in implementing them (some even state that this practice is not relevant). The existence of degrees in the SD area, having a research unit/center on SD, having publications on SD, organizing seminars or workshops on SD, and the development of technologies and the registration of patents in the SD area are implemented much more (or in the phase of implementation) in universities than in the polytechnics.

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