How close to being “Green” are the Greek universities

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Abstract
The last two decades the concept of sustainable development (SD) is attracting intense interest around the globe, by adopting a way of everyday life routine and connecting environmental decisions to social, political and economic factors. Universities should probably be front-runners into analyzing the importance of a SD policy, due to the fact that they cultivate the future leaders and decision makers. There is a lack of clarity on how each institution defines SD and how the related policy is incorporated in their daily routine. On the basis of the conventional terminology, the “Green” only specifies the environment, while SD indicates environmental, economic and socio-cultural aspects. In terms of putting it into practical action there is a major difference between being Green and having a SD policy in effect. This research focuses on the Greek Academic Institutions in order to find out how close to being Green the universities in action are.

Keywords: green universities, sustainable development policy, Greek universities, Greece

1. INTRODUCTION

1.1 Definition of SD
Nowadays the world is confronting a civilization crisis which leads to an intimidating future. One of the biggest national and global challenges that people will have to deal with in the near future is that they will have to espouse a more sustainable way of life [9].

Definition of SD: The general features of SD associate environmental perceptions with social and economic growth [11,32,12,25,29]. The most distinguished definition of the term SD is written by Brundtl in his report with the title ‘Our common future’: ‘Sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs’ [34]. The dynamics and manifestations of SD vary depending on the scenario that we find it in. Therefore the meaning of SD is constantly being adjusted causing some confusion [11]. The term sustainability or SD is used by many groups even with conflicting interests and radically different ideas [13].

According with the ‘Framework for the UNDESD International Implementation Scheme’ [32] there are three main dimensions (environmental, social and economic), in relation with education and learning for SD:

- socio-cultural perspectives: human rights, peace and human security, gender equality, cultural diversity and intercultural understanding, health, HIV/AIDS and governance
- environmental perspectives: natural resources (water, energy, agriculture, bio-diversity), climate change, rural development, sustainable urbanization and disaster prevention and mitigation
- economic perspectives: poverty reduction, corporate responsibility and account ability and market economy [32].
Sustainable Development aims to maintain economic progress along with the protection of the long-term environmental value. The above aim can be achieved through the integration of environmental policies and development strategies [34].

1.2 SD Policy at Universities
The Universities as leaders of new and innovative practices provide a basis for systematic initiatives and actions by establishing Sustainable Policy [30]. According to Ciferri and Lombardi, Policy Development and strategy need to encourage a new way of thinking through educational system [4]. The areas that could be included into the framework policy at university level according to Lozano [19] are the following: Research, Campus operations, curricula, community outreach, assessment and reporting, University collaboration, installing SD in the daily campus experience (education and educators) and generally installing SD into the institutional framework. Each of these areas is a part a common policy framework, but some areas in order to be more effective should apply sub-policies. Institutional framework must insure that sub-policies don’t lead to the fragmentation of the general process, but should work as a unified component in order to achieve the integrated view of SD.

1.3 Importance of implementing SD into University level

1.3.1 The rising importance of implementing SD into Universities through the decades
The first official declaration that have been made by university administrators and which established the commitment to environmental sustainability in higher education, was the Talloires Declaration, in France, in 1990. At the Rio Summit in 1992, was highlighted the urgency of promoting education, public awareness and training: "Education is critical for promoting Sustainable Development and improving the capacity of the people to address environment and development issues” (Chapter 36 of Agenda 21). Chronologically the next declaration which influence the higher education to include sustainability in education and in general activities of the citizens, was the Kyoto Declaration of 1993, which was also approved by 90 universities from all over the world [2]. This idea was furthermore supported globally by UN initiatives, with the most important the current Decade of Education for Sustainable Development (2005–2014). The aforementioned declarations have been nationally executed, through legislation [26,20], government policy (Nomura and Abe 2010), government funding High Education initiatives [27] and through partnerships with non-governmental organizations [35,21].

Another notable declaration that should be mentioned is the biggest United Nations (UN) conference, which took place Rio de Janeiro in June 2012 and which was followed by 46,000 delegates and a further 50 million people taking part through live streaming and social media. The outcome document of Rio+20 conference was titled ‘The future we want’ and acknowledge the significance of ‘education at all levels’, by encouraging institutions to embrace good practice, to adopt a way of teaching based on sustainable development, that integrates component across disciplines, and to undertake research in this area.

1.3.2 Importance of implementing SD in Universities as significant social actors
Universities as critical social multipliers must develop their role much stronger as models for society in the pursuance of sustainability. Furthermore, by the conservative use of resources, universities offer a professional initiative that saves money and safeguards reputation [6]. Universities are key places for progressive action to address this global issue within current and future generations, as world leaders in research, innovation, and education [10]. The core factors that make universities remarkably responsible for SD are the academic freedom and the effect they have on society [24].
1.4 Difference (Misunderstanding) between University with SD policy and Greening the campus

Many Universities call themselves “Green”, but it takes more to have a University with a real SD Policy.

1.4.1 What does a “sustainable university” look like?

In general terms, a university consciously choosing the path of sustainable development would exemplify the following principles:

- Clear articulation and integration of social, ethical and environmental responsibility in the institution’s vision, mission and governance;
- Integration of social, economic and environmental sustainability across the curriculum, commitment to critical systems thinking and interdisciplinarity, sustainability literacy expressed as a universal graduate attribute;
- Dedicated research on sustainability topics and consideration of “quadruple bottom line” sustainability aspects in all other research;
- Outreach and service to the wider community, including partnerships with schools, government, non-governmental organizations and industry;
- Campus planning, design and development structured and managed to achieve and surpass zero net carbon/water/waste, to become a regenerative organization within the context of the local bioregion;
- Physical operations and maintenance focused on supporting and enabling “beyond zero” environmental goals, including effective monitoring, reporting and continual improvement;
- Policies and practices which foster equity, diversity and quality of life for students, staff, and the broader community within which the university is based;
- The campus as “living laboratory” – student involvement in environmental learning to transform the learning environment;
- Celebration of cultural diversity and application of cultural inclusivity; and Frameworks to support cooperation among universities both nationally and globally.

There is a lot of ambiguity in the concept and the agenda of ‘green’ university. For example, having built one showcase green building is by far different from having a university committed to build only green buildings across campus—the first is a project success, the latter a systemic conversion [6], which is more advisable for sustainability. Universities are in a position to embrace sustainable/green university strategies which would eventually establish sustainability principles [22].

“Campus greening” has become mainstream, and this is something to be concerned about [23]. Therefore, it is now common to see in most universities worldwide, innovative examples of environmental actions such as: green building design, recycling and reusing, energy efficient lighting, water conserving fittings and public conveyance initiatives.

1.4.2 How sustainable university projects are different from greening the campus programs

Greening the campus programs requires a multi-stakeholder approach, while SD projects rely on trans-disciplinary research partnerships. “Green University” does not only focus upon on the ecological aspects of sustainability but also on other aspects such as research and development, education, staff rewards, etc. Although there is growing attention and action on sustainable development in higher education, there is no clear definition of “Green University”.

Many institutions establish campus greening initiatives such as environmental education programs/courses and conducted environmental research in addition to their existing academic activities in response to calls for higher education to lead society towards sustainable development. The
factors that structure a “Green University” broadly grouped into seven categories, i.e. management systems, environmental sustainability, sustainable curricula, research and development, staff development and rewards, student opportunities and social responsibility. HEIs struggle to provide a holistic approach to cover the full range of operating one university and show the superiority of action mix over single measures. While valuable, this could only be considered a first step [28,14,9]. Besides physical projects, such as wastewater recycling and source separation for solid wastes, green education and research activities should also be incorporated into the overall action plan so that all the stakeholders can improve their awareness and actively participate in various efforts.

1.5 Factors influencing the implementation of SD
According to Amaral, Martinsand Gouveia [1], “despite the fact that operational initiatives can be seen as worthy examples of sustainable practices, they cannot by themselves be a guarantee of campus sustainability. They lack a systematic and continuous quality improvement approach that is the core of the standardized management systems”. However, changing attitudes and behavior is a difficult and complex task. Recent research findings suggest that it takes more than just information dissemination to influence and change attitudes [30].

Incorporating sustainability into a university system presents challenges regarding its education, research, operations and outreach dimensions [33]. These challenges and opportunities are factors that influence the activation of a SD policy. The ones that are investing into Education SD, have recognized that their role is not only to educate future societal leaders, decision-makers, and intellectuals, but that they themselves should be learning organizations practicing sustainability in education, research, outreach and campus facilities management [9]. Lack of information on environmental problems may be a major obstacle during environmental policy applications, which in turn deprives the university community from experiencing the benefits deriving from environmental management initiatives [8].

Resistance to change is another factor that influences application of a SD policy at a university. The long-standing history of academic freedom and the tradition of criticism and tenure, common cultural characteristics at universities maneuver change and resistance to it. It is not unusual to have senior academics whose academic futures are assured, accustomed to influence and prestige not to embrace or want change. However, a good number of junior academics strive to achieve acceptance, innovation and new ways of working. Change in universities is strongly connected to organizational politics. Recognition of related barriers helps identifying the types of action needed to ensure successful change efforts and implementation of sustainable development policy [7].

2. METHODOLOGY
2.1 Research Area
In order to gain a comprehensive view of the prevailing situation in HEI’s in Greece, we conducted a survey in which we attempted to investigate how close to being “Green” are the Greek universities.

2.2 Research Instruments
This research was based on a series of questions, which in the first instance, was investigated through the sites of each university as the first step of our research and the second level was the confirmation of the data collected, by the rector authorities or competent on the matter from each institution. Once we collected the data, we proceeded to the classification according to the type of questions and then we correlated the results by using the SPSS program.

2.3 Research Sample
The research was conducted nationwide. More specifically, it concluded all Higher Academic Institutions of Greece, which are 23 in total.

3. RESULTS
The results revealed that a 26% of Greek universities have institutionalized SD Policy. And 65% of the participants stated that their university has procedures for campus greening (e.g. energy saving programs, waste prevention and/or management schemes, environmentally friendly dormitories, etc.). In the question related to whether the sampled university have procedures for the integration of sustainable development (SD) issues in the curriculum, the results showed that 83% have. When asked if they have a systematically established SD network to link up staff, 48% of them gave positive answers. Also on the question assessing if they have procedures for training of staff on matters related to SD (e.g. formal series of seminars, guest lectures, courses, etc.), 65% answered that they have. A 13% of the participating universities stated that they have official procedures for SD considerations in purchases, contracting, catering and other services. The percentage of universities having official procedures for students' engagement on matters related to SD, is 52%. A total of 61% of the participating universities responded that they have official procedures for joint SD activities with local actors (e.g. NGOs, municipality, regional government, etc.). Finally, 39% of universities have official procedures for international SD networking.

4. CONCLUSIONS
Out of the 23 universities in Greece, there was a response from 17 of them. Lack of information on environmental problems may be a major obstacle during environmental policy applications, which in turn deprives the university community from experiencing the benefits deriving from environmental management initiatives [8].

The assessment of data revealed that as regards to environmental policy, there is no correlation with the green campus procedures (Pearson Correlation 0.378). This result confirms, that although no SD policy applies to the majority of institutions, there are recoded as green campuses based on procedures that give them the green labeling.

The investigation revealed that only 30% of Higher Education Institutions have institutionalized SD policy approved by their Senate. In contrast, the majority of universities (drawing from those not having SD policy), they have established some kind of green procedures (Pearson Correlation 0.378).
Analyzing the type of green procedures, SD training is seriously missing. Correlation with the student engagement is observed in the analysis of this work. The extent to which universities prepare students to be able to integrate social, environmental and economic considerations in future decision-making influences the implementation of a campus sustainable development policy [19].

Finally this research shows, that SD policy is correlated with international SD networking (Pearson Correlation 0.504), demonstrating that the very small number of universities that offer SD policy, presents an interface with global trends such institutions with international standards for sustainability. These global trends in turn affect even the universities that implement green campus procedures, without necessarily having institutionalized SD policy.

In sum, we came to the conclusion that the environmental intentions of the universities seem to be promising. Nevertheless, the application of a sustainable development policy is still far from realized.

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