

Sustainable Campus Initiatives Implemented by Higher Education Provider: Practices amongst Students

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ABSTRACT: The Sustainable Campus program, which was launched on 21 June 2007, seeks to coordinate the implementation of sustainable development in Universiti Kebangsaan Malaysia as a whole. However, the university's complex environment with diverse organizational sub-cultures and traditions has raised concerns. The main challenge in conservation efforts is awareness and acceptance. Therefore, continuous efforts have to be made through various programs such as awareness campaigns and enforcement. The involvement of all parties will help in realizing the Sustainable UKM Charter towards a sustainable campus. This study aims to identify sustainable consumption practices among students and their role towards achieving a sustainable campus. Interviews were conducted via a set of questionnaire with 216 undergraduate and 84 graduate students. The results indicated that majority respondents, students take cognizance and adopt sustainable campus practices such as energy management, water saving, use public transportation, manage waste effectively and actively involved in recreational facilities.

KEYWORDS: Sustainable Campus; Staff; Students; Practices; Advocacy; UKM

Received 31 August 2016 Revised 24 January 2017 Accepted 27 January 2017 In press 26 February 2017 Online 20 March 2017
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INTRODUCTION

The education system in Malaysia is seen as an investment in producing quality human capital that can contribute to the country. A university is seen as a place that has a large area, involving a large population with complex activities that could have an impact on the environment and sustainability both directly or indirectly. The university can also provide awareness, skills, knowledge, and values within each student or staff who works at the university. The learning process should promote a sustainable environment as an endeavor to develop a student who is aware and appreciates this concept (Ngadiman *et al.* 2012). The consolidation of the sustainability concept should start from the level of sustainable management and administration to increase the effectiveness of sustainable practices at the university level. Besides, the university has the potential to be an agent of change that can help improve the public's potential to understand and appreciate the concept of sustainability.

The level of knowledge of students of Universiti Kebangsaan Malaysia (UKM) on sustainability is average where the majority of the students do not deeply understand the concept (Derahim *et al.* 2011). In addition, it was found that students, who knew of the importance of preservation and conservation of the environment, often advised friends about saving resources. It was observed that they do not appreciate and practice the concept sufficiently even though they understand the

importance and the objectives of a sustainable campus that had been introduced. However, students were found to be less prepared to manage the activities and programs related to sustainability, perhaps because the organization by UKM is on a small scale, isolated, not continuous, and with limited targets.

Although the concept has long been introduced and the public is aware of it, the appreciation and implementation are still lacking. Although a variety of programs and activities have been planned to encourage community involvement and understanding of the importance of sustainability, the response has still been weak. For example, the No Plastic Bag Day where every Saturday the public is advised to use their own bags when buying things at the supermarket and, if plastic bags are needed, they need to pay RM0.20 for each plastic bag that is given. However, the response to this campaign is still unsatisfactory because only large supermarkets run this campaign.

The issue of sustainability has long been a hot topic for discussion, both at the level of policy and decision makers as well as at the level of planners and implementers. Of late, the issue of sustainability has been gaining worldwide attention, and has often been considered a worthwhile pursuit at conferences, seminars, workshops, and roundtable discussions at the national and international levels. The issue that is often discussed is the issue of quality of life and the well-being of a community that inhabits a particular living space and locality. The living space that is referred here includes the residential college of the students who are the human capital, obtaining knowledge at the university, who would then contribute to the country in the future (Shafii *et al.*, 2013). As a result of the awareness of the importance of higher education institutions (HEIs) in promoting environmental sustainability, most universities around the world have implemented initiatives to become a sustainable campus. The university is currently undergoing restructuring of the learning curriculum and the research agenda has focused more on sustainable development with sustainability being the main goal in the development of the campus and its daily operations. It is based on the awareness of the need to reduce the impact of campus activities and operations on the environment by training students to be sensitive and aware of sustainability in each activity and their behavior at the university (Abubakar *et al.*, 2016).

Sustainable campus communities such as the academic staff, students, administrative staff, suppliers, visitors, and outside people are the parties responsible for protecting and improving the health and welfare of the people as well as the ecosystems at both the local and global levels. It involves knowledge of the university community in addressing social and ecological challenges at present and in the future. Therefore, every individual plays an important role directly or indirectly in achieving initiatives towards the sustainability of a university (Derahim *et al.*, 2012).

Quality of life and the residential college environment of the student in a university often raises the question more towards the aspects of living quality, the environment involving waste management, energy and water management, planning, facilities within and outside of the building, design, safety, and the landscape of the residential college in order to achieve the well-being of students there. Furthermore, the concept of livable and durability were used in this research to examine the sustainability of the residential colleges in the context of sustainable development. Thus, this paper aims to review sustainable campus initiatives implemented by a higher education provider, and practices amongst students.

THE CONCEPT OF A SUSTAINABLE CAMPUS

UKM has implemented various modus operandi in the implementation of a sustainable development. The commitment can be seen by looking at the work done by UKM towards the establishment of sustainable campus including the establishment of the Institute of Environment and Development (LESTARI) in 1994, the launch of the Sustainable UKM Charter in 2007, the preparation of the Master Plan for a UKM Sustainable Campus in 2007, the establishment of the UKM Sustainable Research Group (Sustainable Community Group, Sustainable Ecosystem Management Group, Sustainable Design Group) in 2008, the 'Transition Towards a Sustainable Campus Project' in 2009, and the launch of the Zero Campus Waste Program in 2010.

UKM also signed the *Talloires* Declaration in 2009 and some sustainable development related research institutes such as the Solar Energy Research Institute (SERI), the Institute of Fuel Cells and Southeast Asia Disaster Prevention Research Institute (Seadpri) is among the initiatives in sustainable development. UKM in its determination and desire to establish a sustainable campus, is highly dependent on the cooperation of the stakeholders, especially the students and staff (Derahim *et al.*, 2012).

Many studies have been conducted by previous researchers on awareness and implementation of a sustainable campus. In assessing the effectiveness of a sustainable campus program, the campus community is one of the core drivers in determining the effectiveness of the implementation of the concept of sustainability in a university (Cortese & McDonough, 2003; Tilbury *et al.*, 2005; Velazquez *et al.*, 2005). The implementation of an institutional sustainability also requires changes in attitudes and behavior of individuals in the institutions such as the faculty, staff, and students (Chen *et al.*, 2011; Dyball, 2010). Universities should enhance capacity building efforts among the campus community. The campus community should be informed about the developments of the sustainability process in the university as a motivation for them to increase their commitment to succeed in the sustainable campus mission (Dahle & Neumayer, 2001).

Davis *et al.* (2009) in their study of the attitudes and behavior of non-academic staff at the Griffith University, Australia, found that their attitude towards sustainability reflected the level of the emphasis on a sustainable culture in their respective workplace. Meanwhile, (Ngediman, 2012) studied the barriers and challenges to university sustainability through the perception of the staff at a university in Australia. Through his research, the level of awareness, knowledge, and understanding in relation to sustainability among the staff was a major obstacle to the establishment of a sustainable campus.

In a study by Mahadi & Yusof (2003) concerning the level of environmental awareness among university students conducted in UKM, found environmental awareness among students to be at a high level, but the willingness of students to be involved in solving environmental problems was too low and this requires a comprehensive approach to be carried out.

RESEARCH METHOD

This study is a quantitative study to systematically and empirically identify and assess the involvement and student practices in campus sustainability in UKM. A questionnaire survey was used to facilitate the collection of information from 300 respondents consisting of students from all levels of courses. Statistical Package for Social Science version 22.0 Package was used to process the data acquired from the survey. The overall reliability of the questionnaire items is 0.71 using the

Cronbach's alpha method. Descriptive analysis of frequency and percentages was used to analyze the data.

The study involved respondents who are undergraduate and postgraduate students from Kolej Keris Mas and Kolej Pendeta Za'ba, UKM, Bangi, Selangor, Malaysia. A total of 216 undergraduate and 84 graduate students took part in this survey.

Involvement in Sustainable Campus Activities

278 or 92.7% respondents are willing to get involved in campus sustainability programs. Meanwhile, another 22 respondents at 7.3% are not interested in participating and practicing the concept of a sustainable development. This indicates that respondents have a high interest to join the program towards a sustainable campus. The respondent students participated in the campus sustainability program as it is a mandatory criterion of UKM, scoring merit and encouraged by a friend or colleague. Most of the students know that it is their role and responsibility in adopting sustainable practices in the campus.

Energy Management

Energy management encompasses the respondent's knowledge about the importance of energy management in the campus. Most of the respondents know the importance of energy management on campus at an average of 266 respondents, or 88.7%, while there are some respondents who expressed no at an average of 34 respondents or 11.3%. UKM is a university that is synonymous with the title of a sustainable campus. In addition, subjects and syllabus taught to the students gives them the opportunity to know more deeply about sustainable campus. UKM also has a faculty to further intensify each sustainable activity and program run on campus. Most respondents use more than one electrical device on campus. The highest average value is 276 respondents or 92.0%, followed by the use of laptops at 9 respondents (3.0%) and iron with an average 7 respondents and a percentage of 2.3%. The average value and the lowest percentage for using a washing machine is at 1 respondent (0.3%). Electrical equipment which is often used by the respondents, while in college, especially in the residential colleges are iron, laptop, washing machine, and kettle. This is because electrical devices are essentials for students, especially laptops are generally to complete assignments and for entertainment in the college.

Transportation

The findings indicated 284 or 94.70% of the respondents said 'Yes' to the item of UKM providing public transport. This is because the main transportation for the campus community in UKM by bus, which is provided by the management of UKM. Meanwhile, 5.30% or 16 respondents said 'No' to this item. This is because these students are not aware of the public transport, because most public transportation has a notice to pay small money.

57% of the campus community use public transport as they prefer to take the bus because of parking problem. Meanwhile, 40% are more comfortable using their own transport. This is because the time taken for waiting and sitting in the bus is too long, especially to get to the library because the bus will go around the whole UKM. Thus, a lot of time is wasted.

Moreover, a total of 99 respondents or 33.0 percent said 'Yes' to the buses on the campus of UKM using environmentally friendly materials, namely "Natural Gas Vehicle". This is because the buses that pass by do not emit too much smoke. A total of 159 respondents, or 53 percent of the respondents are not sure whether the use of environmentally friendly materials or materials that emit fumes pollute the environment of UKM. Meanwhile, 41 respondents or 13.7 percent of the

respondents said 'No' because public transportation typically emits fumes that pollute the environment of UKM.

Water Management

Most of the students will report to the college in the event of a water leak with a high frequency value of 112 respondents and 37.3 percent as well as 78 respondents and 28 percent who strongly agree. This attitude reflects sensitivity to cases involving water damage. Almost all respondents said they agree that they adopt water saving by closing the tap while brushing and shampooing. This shows that they are aware of their role in maintaining a relatively important source, especially for future generations.

Waste Management

This section will analyze the level of waste management of a sustainable campus that is available in the study area with a view of the frequency, percentage, and average. For item on recycled items such as bottles, plastic, clothes, books and others showed that the majority of respondents agree about recycled goods on campus with the percentage of 46.3%, while strongly disagree was at the lowest percentage at 3.3% with a frequency of 10 respondents.

29.7% of the respondents bring their own containers to the cafeteria. On the other hand, the rest of the respondents prefers to use food packaging such as plastic and polystyrene containers that have been provided in the cafeteria and dining hall in college accommodation. Some respondents ate at the cafe with their plate.

151 or 50.3% of the respondents support product recycling items such as furniture, paper and household items. Most respondents agreed to use recyclable materials to make goods and any hardware to use. Normally recycled items will add value as it can save money. For example, shampoo containers to be used as stationary or can be used to store kitchen appliances such as a spoon, fork and knife.

80% respondents print documents on both side pages to reduce paper waste. The respondents stated that printing documents and tasks using both pages can avoid wastage and reduce the felling of trees for paper production. Thus, the campus also will be much cleaner and environmentally friendly.

47% of the respondents adopt with digital communication system by using e-mail instead of via letters. Most of the respondents prefer to use the electronic transaction for their money transactions as it saves a lot of time. In addition, the respondents manage waste effectively as they are well-informed via advocacy, advertising and programs carried out at the university.

Landscape and Recreation

Landscape is the environment experienced by each individual, encompassing the geological structure of soil, flora and fauna, patterns of human activities such as farming, forestry, and industrial placement. It is also an interaction between natural beauty and aesthetic value (National Landscape Department, 2005). 87% of the responding students agreed that recreational facilities are provided to the community. There are many parks, jogging track, theme parks and others that allow them to participate in recreational activities and leisure.

CONCLUSION

The results indicated that majority respondents, students take cognizance and adopt sustainable campus practices such as energy management, water saving, use public transportation, manage waste effectively and are involved in recreational facilities.

ACKNOWLEDGEMENTS

This research is funded by the project entitled "The Formulation of a Manual for the Assessment for Campus Sustainability" in UKM (AP-2014-022), under the leadership of Prof. Dr. Er Ah Choy. Faculty of Social Sciences and Humanities, National University of Malaysia.

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