

Diagnosing Knowledge, Attitudes and Practices for a Sustainable Campus

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Abstract: The Agenda 21, a product of Rio Earth Summit 1992, is a blueprint of action for societies to achieve sustainable development. Higher education institutions were to act as trailblazers in the realisation of this mission. This paper scrutinises the development of sustainable campus in Universiti Kebangsaan Malaysia by diagnosing the domains of Knowledge, Attitudes and Practices (KAP) of this development based on the results of a field survey involving 191 students and 45 staff. Result analyses found the following: (1) Knowledge divergence between the staff and students with regard to UKM being on the path of a sustainable campus, but a convergence of opinions with regard to the introduction of sustainable campus programmes, the adoption of sustainable lifestyle and the preparation towards it despite potential inconvenience, the desirability for sustainability being practiced by the higher UKM administration, and the adoption of a merit and demerit system to boost the acculturation of sustainability in UKM; (2) The existence of a dichotomy between attitudes and practices exemplified by preference for private over public transport in spite of wanting a sustainable campus and the practice of 4R (refuse, reduce, reuse, recycle) by staff only. The implication of the findings is the imperative of alignment in the domains of Knowledge, Attitudes and Practices for staff and students in the building of a sustainable campus to minimise dichotomies and divergence in the KAP domains but also and to provide for effective sustainability benchmarks not only for UKM but also other campuses pursuing sustainability.

Key words: Knowledge • Attitudes • Practices • Sustainable Campus • Capacity Building

INTRODUCTION

The Agenda 21, a product of Rio Earth Summit 1992, is a wide-ranging blueprint of action for societies to achieve sustainable development worldwide. Capacity building is one of the Agenda's implementation means which encompasses a country's human, scientific, technological, organisational, institutional and resource capabilities [1]. It is the a platform to build upon for building knowledge about sustainability and transforming it into actions [2]. This is crucial as without objectively defined terms of references ill-educated communities could only lead to ill managed environment [3].

Higher education institutions are the a nation's building blocks. In fact, their place at the apex of the education pyramid has bequeathed on it a responsibility towards society [4]. Therefore, it is critical that higher

education institutions understand and accept their responsibility within the broader context of social and economic development and the nurturing of sustainability conscious societies [5, 8] within and beyond the campus [9]. To be sure, the level of conceptual understanding of sustainability [11] and sustainable practices in higher education institutions has been higher compared to the general communities [6]. This is reflected by the fact that students in those institutions have now joined the staff and faculty in advocating sustainability [7]. Such development indicates that barriers to change to sustainability [10] not only could be identified but also overcome by educating the campus citizens.

A large number of researches on sustainable campus focus on the concepts, construction and maintenance of a sustainable campus. However, no existing study has focussed on examining the society's existing state of

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knowledge, attitudes and practices prior to the building of a sustainable campus. Yet information and understanding of these matters are crucial to effective capacity building of a sustainable campus.

In the Knowledge, Attitude and Practice (KAP) model, it is assumed that increased knowledge motivates people into changing their attitudes and eventually their behaviours [12]. The KAP approach is widely used in research [13-17], where there is a need to assess the understanding of certain concept versus the current attitude and practice of the audience on the concept. Assessing the level of knowledge of the people [18] with regard to sustainable campus, for instance, would reveal their understanding of the concept. This is because selective perception does occur as when an idea is irrelevant to an individual's needs or beliefs; he or she may choose to ignore the communication despite being exposed to the idea [19]. This would call for continuous awareness raising efforts and appropriate capacity building programmes [20] to which end an examination of the current status of knowledge, attitudes and practices of the audience would be imperative.

Given how crucial it is for the knowledge, attitude and practice of the campus citizens with regard to sustainable campus to be examined, this paper diagnoses the domains of Knowledge, Attitudes and Practices of the Universiti Kebangsaan Malaysia (UKM) Bangi campus community.

MATERIALS AND METHOD

The Study Area: The study area selected for this research is Universiti Kebangsaan Malaysia Bangi campus. This campus is the main campus for Universiti Kebangsaan Malaysia and a large proportion of students and staffs are located here.

The Sampling Frame: The diagnosis involved the collection and analyses of information on what was known, believed and done in relation to building a sustainable campus. The sampling frame consisted of the entire population of students and staff in the UKM Bangi campus. From this frame, two samples pertaining to staff and students were identified for survey questionnaire distribution. For the staff sample, the survey questionnaires were distributed to staff of General Studies Centre and Public Relations Department. Survey questionnaires for students were distributed in two residential colleges and during English lectures and a course on the Environment where there was a mix of natural science and social science students.

Data Collection and Analysis: A total of 350 questionnaires were distributed in the month of April 2010. However, a total of N=236 questionnaires were returned and analysed descriptively by percentages. The returned questionnaires represented 81% (n=191) students' and 19% (n=45) staff.

RESULTS AND DISCUSSION

The survey has revealed some interesting findings on the UKM citizens' KAP with regard to sustainability. These key findings, as represented in subsequent figures, are important to serve as a basis for identifying areas that need immediate attention/actions to improve sustainability practices in UKM.

Knowledge: The UKM citizens were found to be fairly divided in their opinion as to whether UKM is a sustainable campus. Among the staff, a majority of 63% agreed and agreed strongly that UKM is a sustainable campus. In contrast, among the students, a majority of 51% disagreed. Similar trend was found in response to the question if UKM citizens had demonstrated sustainability behaviour. The majority of staff (57%) agreed and agreed strongly, while 55% of the students disagreed and disagreed strongly. Nevertheless, responding to the question whether they understood the concept of sustainable campus, both staff (75%) and students (77%) affirmed that they did understand the concept (Figure 1).

It is interesting that despite their agreement about their understanding of the concept of sustainable campus, staff and students did not agree on the first two questions. These contrasting findings between the two groups suggest that capacity building programmes to raise awareness about the concept of sustainable campus for staff and students should be done separately. Information most relevant to these two groups should be taken into consideration when preparing their respective capacity building programmes. This suggests the need for training needs analysis (TNA) to be done prior to the preparation of such programmes.

Attitudes: The study revealed that most of the citizens - staff (94%) and students (93%) alike, concurred that it was important to implement sustainable campus programmes in UKM. In fact, the majority of the respondents i.e. both staff and students (95%) agreed with the idea of adopting a sustainable lifestyle. In addition, the majority of staff (91%) and students (90%)

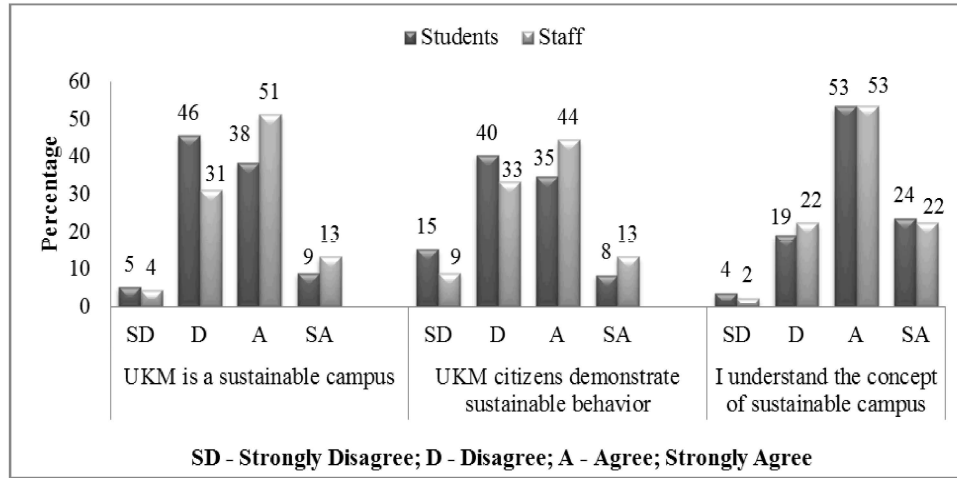


Fig. 1: Summary of key findings on knowledge/awareness domain

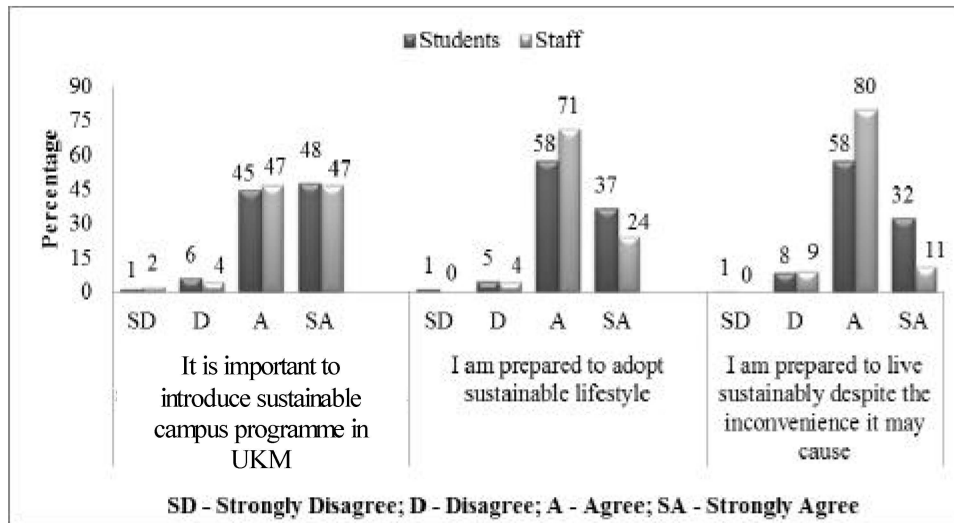


Fig. 2: Summary of key findings on attitudes towards sustainable campus

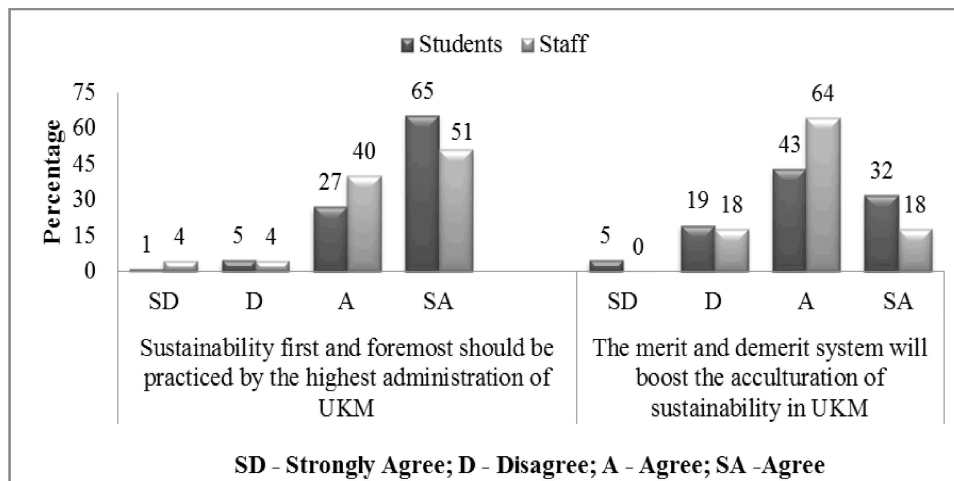


Fig. 3: Attitudes towards implementation of sustainable campus

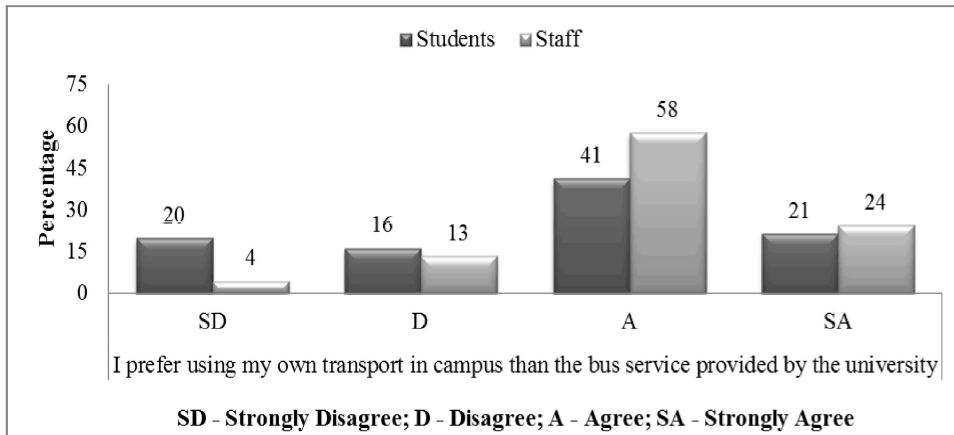


Fig. 4: Preference of using own transport within campus

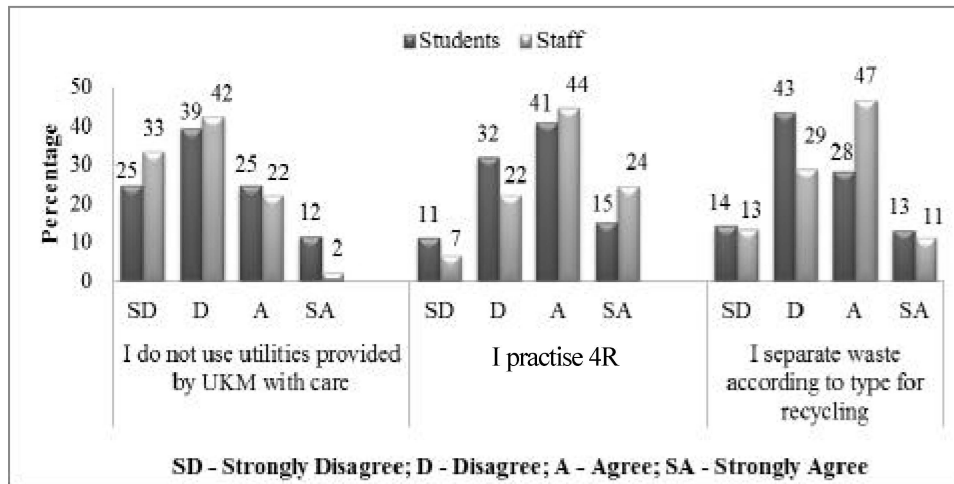


Fig. 5: Conservation practices of the UKM campus citizens

expressed willingness to forgo some personal comfort and convenience for the sake of upholding sustainable practices (Figure 2).

This rather extreme attitude could serve as a basis to jumpstart desired sustainable behaviour among the citizens of UKM. This could be done bearing in mind that both staff (91%) and students (92%) were united in their belief that the implementation of sustainable campus in UKM should be initiated by the highest administration of UKM. Hence, the top down approach was perceived as crucial in making UKM a sustainable campus. As to whether the adoption of a merit/demerit system will help accelerate sustainability in campus, most staff (92%) and students (75%) gave positive response. Nevertheless, the percentage revealed that it was the students who were more willing to be merited or de-merited for this purpose as compared to than staff (Figure 3).

Overall, the findings in the attitude domain showed that the citizens of UKM had positive attitudes toward UKM as a sustainable campus. This is an indication that they would be most receptive to knowledge and awareness enhancement programmes.

Practices: It was earlier shown that both staff and students were willing to sacrifice some personal comfort and convenience for the sake of sustainability. However, the findings on sustainable practices among the respondents revealed otherwise. In this instance, the majority of staff (92%) preferred to use their own means of transports rather than public those public buses provided by the university. Similar results, though at a lower percentage level, was found with the majority of students (63%) indicating a preference for their own private transportation. This preference indicated a mismatch between attitude and behaviour with regard to sustainability practices (Figure 4).

The study also found that the majority of staff (75%) and students (64%) disagreed and disagreed strongly to the suggestion that they did not use environment friendly utilities provided by UKM with care. In other words, the majority of respondents claimed that they used these utilities provided by UKM with care. It was also found that the majority of staff (68%) and students (56%) were highly agreeable to the 4R (Refuse, Reduce, Reuse, Recycle) practices. There were, however, some discrepancies as to the details of the practices agreed upon by the staff and students. This pertains to the question as to whether they would separate paper for reuse and recycle or not. Here, a total of 58% of the staff professed that they separated used paper while 57% of the students did not do so. The question on the recycling of paper was raised because paper is one of the most recyclable things in higher educational institutions. It was also one of the simplest to be recycled. That this was not done by the majority of students really posed some serious consideration for the capacity building programmes (Figure 5).

CONCLUSION

This diagnosing of the Knowledge, Attitude and Practice (KAP) domains of the UKM citizens with regard to the development of a sustainable campus indicated an overall Knowledge divergence between the staff and students with the staff agreeing to and the students against the suggestion that UKM was on the path of being a sustainable campus. Nevertheless there was a convergence of opinions in understanding the concept of sustainable campus where the majority of both staff and students were agreeable to the introduction of sustainable campus programmes, the adoption of sustainable lifestyle and the preparation towards it despite the potential inconveniences caused. This Knowledge and awareness convergence extended to the practice of sustainability by the higher UKM administration and the adoption of a merit and demerit system to boost the acculturation of sustainability in UKM. As to the overall diagnosis of Attitudes and Practices a dichotomy existed between the two. Despite showing positive attitude towards a sustainable campus, the practice of prioritising the usage of private and personal over public transport indicated a divergence. Likewise, while UKM citizens agreed on the practice of 4R, only the staff separated the waste paper for recycling purposes.

The general implication of the findings is the imperative of alignment in the domains of Knowledge, Attitudes and Practices for staff and students in the building of a sustainable campus. Alignment will not only help to minimise the dichotomy and divergence in the KAP domains but also the form of in the capacity building programmes that will provide for effective sustainability benchmarks for UKM but also as well as other campuses.

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