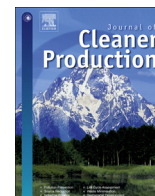


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Green Universities in China – what matters?

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ABSTRACT

There has been an increasing level of attention to sustainability issues in higher education by academic leaders, students and by policy makers and the public, at large due to significant impacts of university activities have upon society environmentally and socially in the short and long-term. The last decade has witnessed the promotion of “Green University” in China with an aim of fostering sustainable development in higher education. This paper was developed, based upon research designed to investigate the awareness of faculty, alumni and student’s parents on sustainable development and their perceptions on the ‘Green University’. A large-scale questionnaire survey was conducted with representatives of each of these three groups of stakeholders in the Shandong University, one of the largest academic institutions in China. The main focus of this study was placed on exploring the most important factors that contribute towards achieving ‘Green University’ goals from different stakeholders’ points of view. These factors were 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. This research compared the perceptions of these three stakeholder groups with those of the student’s perspectives, which were also researched several months earlier at Shandong University. Implications on the ‘Green University’ development are presented. The research findings provide a useful reference to improve both the sustainability performance in higher education at Shandong University as well as for ‘Green Universities’ more broadly throughout China and other parts of the world.

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1. Introduction

There have been ongoing debates surrounding the interpretation of sustainable development. Even though there is some progress towards a consensus on the meaning of sustainable development, relevant terminologies (e.g. sustainability and sustainable) have been misunderstood or overused (Waas et al., 2011). The lack of a consensus definition is due to its complex nature (Shriberg, 2000). Therefore, it is imperative to understand the core meanings of sustainable development (Jordan, 2008). On the other hand, Robinson (2004) argued that there are merits of constructive ambiguity of the term however processes have to be developed in order to make use of constructiveness by allowing “diversity to be expressed without creating paralysis”. According to Waas et al. (2011), there are four overarching fundamental principles of

sustainable development regardless the way of interpretation, i.e. normativity principle, equity principle, integration principle, and dynamism principle. Sustainable development used to have an overly narrow environmental/ecological connotation, but more recently there is a growing recognition of other aspects such as social dimensions that must also be addressed (see e.g. Lehtonen, 2004; Dempsey et al., 2009; Waas et al., 2011).

The goal of developing sustainable societies is presenting significant and urgent challenges worldwide. China is no exception. Sustainable societal development is underscored in every “Five-Year” Development Plan (Yuan and Zuo, 2011) and the relative environmental policies (Wang et al., 2012). The educational sector, particularly the higher education sector must play increasingly active roles to help Chinese society to achieve the strategic sustainable development goal. As of May 22, 2012, there were a total of 2492 colleges and universities in Mainland China, excluding military institutions (MoE, 2012). These institutions have significant impacts on environment and society because throughout China, the educational sector is the largest public sector energy consumer, with approximately 40% of the energy consumption of the public

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sector (State Council, 2012) and the energy consumption per student is four times that of other Chinese residents (Tan et al., 2010). Similarly, universities and colleges have significant impacts on the attitude and knowledge development of their students (Karpudewan et al., 2009). These ‘indirect’ impacts of academic institutions on sustainable development, going beyond mere energy consumption, should not be overlooked. As a result, the Chinese Governmental leaders decided to promote sustainable development in universities.

For instance, the Chinese government is actively promoting the concepts and practices of “Resource Efficient University Campuses”. This is to help university leaders, students and staff to meet the demands of social responsibility at their universities. This can be achieved by a holistic approach to:

- Educating future professionals and enhancing students’ skills and knowledge on sustainable development.
- Improving energy efficiency on campus.
- Shifting to renewably generated energy, food and other materials used on and off campuses.
- Increasing the university’s social responsibility on environmental protection and resource economization.
- Broadening the visions/knowledge/opportunities for action on all global environmental issues.

However, this policy mainly deals with ecological aspects of sustainable development in universities (i.e. resource consumption and efficiency). As is well documented in the literature, a sustainable university is a complex system, which is broadly reflected into six aspects, i.e. sustainable campus operations, sustainable research, public outreach, cooperation between/among institutions, sustainable curricula and sustainability reporting (Wright, 2002; Fien, 2002; Lozano, 2006a, 2006b). This is also reflected in the sustainability assessment exercises of some universities (e.g. Wright, 2010; Lozano, 2006a).

These ideas were captured in the recent development of SD in higher education in China with regard to promotion of “Green University” nationwide. In May 1998, Tsinghua University was selected as the first academic institution in for demonstration of ‘Green University’ developments. “Seminar on building a sustainable campus” organized by Ministry of Education (MoE) was held in Tongji University in 2008. Leaders of 32 of the top universities in China signed the Tongji Declaration after the seminar (see Appendix A: Tongji Declaration). This Declaration conveys a broader concept of SD in universities and covers various aspects of sustainability in higher education such as sustainable curricula, research and development for education students and society on sustainable societal decision-making, and encouraging students’ to engage in activities related to sustainability. The coverage of the Tongji Declaration is similar to the scope of other Declarations for sustainability in higher education however it is less comprehensive on assessment and reporting, trans-disciplinarity and “educate the

educators” (headings are from Lozano, 2013). The Tongji Declaration reflects the governmental stimuli for developing Green University from the government. The contents are advocacy oriented while no specific terms were defined the mechanisms to realize Green University.

In March 2011, the China Green University Network (CGUN) was formed in Tongji University. The initiators of CGUN include eight universities and two research institutes; five out of these eight universities have signed the Tongji Declaration in 2008. More than 100 universities are expected to join CGUN by 2015, including the universities from Taiwan, Hong Kong, Macau and others in the Asia-Pacific region (CGUN, 2011). The CGUN is working on the following areas since it was established, (1) to reinforce inter-university cooperation and exchange in the field of construction of Green Campuses; (2) to provide support on national policy decisions for energy management in the campus; (3) to promote innovation, development and cooperation of green building technology; (4) to train senior personnel in the field of green campus and energy efficiency management of green buildings; (5) to provide practical demonstration bases for the cultivation of green campus culture; (6) to lead in the development of ‘Green Universities’ in China (CGUN, 2011).

It is important to observe that the ecological bias suggested by the term “Green University” can cause confusion. However, the term “Green University” is utilized in this study to represent “sustainable university” due to: (1) the multi-dimensional aspects of a green university have been well documented in a number of initiatives such as the Tongji Declaration and the Green University China Network; (2) this term has gained recognition of an increasingly number of universities in China. The narrow scope of green university has been broadened. In this study, we took a broader definition of “Green University” as recognition of the multi-dimensional aspects of university systems. In other words, “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. It was found, based on an extensive literature review, that although there is growing attention and action on sustainable development in higher education, there is no clear definition of “Green University” in China.

As one of the leading universities in China, SDU signed the Tongji Declaration but is not part of CGUN at the time of this study. With its objective to develop a ‘Green University’, hopefully SDU will become a member of CGUN in the near future.

International symposia on the ‘Green University and environmental education’ were held at Tsinghua University and at SDU in 2010 and 2011 respectively. This shows a growing attention to the research and practice of the ‘Green University’ in China.

However, there is lack of in-depth study on sustainable development in higher educational institutions in China based on empirical evidence (Niu et al., 2010). This paper reports on the second stage of a large-scale project, based upon investigations of the ‘Green University’ from various stakeholders’ perspectives.

Table 1

Faculty member’s awareness of sustainability issues on the ‘Green University’ at SDU.

Options	Global environmental issues	Local environmental issues	Sustainable development	The ‘Green University’
I know very much	59.9%	62.3%	51.5%	27.2%
I know to some extent	37.7%	34.1%	42.8%	42.8%
I’ve heard of it	2.1%	3.3%	4.8%	16.5%
I don’t know at all	0.3%	0.3%	0.9%	13.5%

Table 2

Academy member’s awareness of sustainability issues on the ‘Green University’ at SDU.

Options	Global environmental issues	Local environmental issues	Sustainable development	The ‘Green University’
I know very much	67.1%	80.9%	65.1%	34.2%
I know to some extent	28.9%	17.8%	32.2%	40.1%
I’ve heard of it	3.3%	1.3%	1.3%	13.8%
I don’t know at all	0.7%	0.0%	1.3%	11.8%

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