



Non-Green Campus And Its Impact On Quality Of Life Of Its Stakeholders: A Study From The Royal University Of Bhutan (Rub) Perspective.

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Abstract

Universities and Colleges across the globe are heading towards transforming their campus into a 'Green Campus'. The UI Green Metric World University Ranking was established in 2010 by Universitas Indonesia (UI) for sharing information relating to the sustainability of the University campuses. The general perception is that a green campus offers a better quality of life (QoL). The present study aims to explore how the non-green campuses of Royal University of Bhutan (RUB) colleges affect the QoL of its internal stakeholder. A quantitative research design is employed for the study. The survey data is collected from the staff and students of the RUB Colleges. The instrument used in the study had adequate reliability with Cronbach's alpha of above 0.90. The analysis is performed using descriptive and inferential statistical tools. The findings reveal that majority of the stakeholders are satisfied with the QoL. There is no significant difference in perception towards QoL among the staff and students. Furthermore, the findings reveal that RUB colleges are performing excellently in waste management arena. Therefore, it is concluded that though RUB College campuses are non-green, but still offer a better quality of life to stakeholders.

Keywords: Green Campus, Quality of Life, Royal University of Bhutan, Waste Management, Universitas Indonesia

Introduction

Sustainable Many Universities and Higher education institutions (HEI) across the globe are practicing principles of Development and heading toward transforming their campus into a 'Green Campus' (Sharp, 2002; Cole and Wright, 2003). There is increased interest in the environmental responsibility of universities and in green initiatives that are being implemented on campuses. This is because the 'green campuses' are sustainable (Lednewsdesk, 2020). The UI GreenMetric World University Ranking was established in 2010 by Universitas Indonesia (UI) for sharing information relating to the sustainability of the University campuses. In 2020 more than 900 Universities have been ranked across 84 countries by UI GreenMetric World University Ranking (Barakbulletin, 2020). All universities of the world having an interest in sustainable practice can participate in the ranking (Guideline of UI GreenMetric World University Ranking, 2016). The ranking

method is based on six (6) main categories, which include setting and infrastructure, energy management, waste management, water usage, transportation, and environmental education (Fitri et al., 2018). The six (6) main criteria of the UI GreenMetric Ranking were designed to achieve sustainability, which in turn results in good Quality of life (QoL) for the stakeholders in Green Campus Universities (Tiyarattanachai & Hollmann, 2016). Royal University of Bhutan's (RUB) campuses are assumed to be non-green campuses because it has not received any ranking by the UI GreenMetric Ranking agency. Against this backdrop, it is imperative to explore how non-green campuses of RUB colleges affect the QoL of its internal stakeholder.

Knowledge Gap

To the knowledge of the researcher, no study was being done on the RUB regarding the impact of non-green campuses on the QoL of its stakeholders. This creates a knowledge

gap and provides the opportunity for the researcher for researching the impact of non-green campuses on the QoL of RUB stakeholders.

Research Questions

How do stakeholders of RUB colleges perceive the quality of life on campus?

In which indicator of UI GreenMetric World University Ranking (2018) RUB required to concentrate on for improving the QoL of the stakeholders?

Significance of the Study

The study outcome would help RUB in designing world-class 'green campuses' over a medium time horizon, by making significant changes in areas, which include setting and infrastructure, energy management, waste management, water usage, transportation, and environmental education. The study outcome suggests plans and solutions to build a sustainable campus that could enhance the quality of life of its stakeholders. The overarching objective is to bring organizational changes by transforming the University and College campus into a Sustainable Campus.

Literature Review

The key literatures concerning UI Green Metric and sustainability, quality of life and relationship between UI Green Metric and QoL is presented here.

Literature on UI Green Metric University Ranking and Sustainability

The UI Green Metric ranking is a platform for the University to examine their strength and weakness in promoting the green University. (Suwartha & Sari, 2013; Ragazzi & Ghidini, 2017). Likewise, a study was conducted by Berawi (2019) to judge the importance of the UI GreenMetric ranking system. The study concludes that the UI GreenMetric ranking system is the only sustainability ranking, which is relevant simple and, accessible. The green campus concept is an emerging model for the Higher Education Institute (Ali & Anufriev, 2020). UI GreenMetric scale is a simple, popular, and easily accessible scale. The six factors mentioned in the scale capture all dimensions of the green campus. Figure 1 illustrates the components of green campus as mentioned in UI Green Metric, 2018.

Literature on Quality of life

There exist a positive linkage between the Green campus and the QoL of the stakeholders. The campus should have a good green design to improve the QoL of

stakeholders and give them better comfort (Tamiami et al., 2018; Wendelboe-Nelson et al., 2019; Boyd, 2020). The stakeholders of a Higher Education Institute have asserted that the development of green space in educational institutions and nearby areas is a necessity (Bacali et al., 2018). Similarly, the study of G, M. K., and Ganesh (2019) revealed that the green initiative's adoption positively affects the Quality of Life of Stakeholders. In the same line, a study was conducted by Stanhope et al., (2020) to judge whether exposure to green space would reduce the pain burden or not. The study result revealed that green space reduces the pain burden and consequently improves the QoL.

Literature on Relation between UI Green Metric University Ranking and QoL

Tiyarattanachai and Hollmann (2016) acknowledged that indicators that constitute the UI Green Metric University ranking have an impact on the QoL of its stakeholders. A green campus is a cleaner, safer and healthier place to live and work. Stakeholders from the green campus develop more relatedness with nature and enjoy a better quality of life as compared to non-green campus (Prasetyo et al, 2018). Additionally, Malek (2021) pointed out that UI GreenMetric Ranking motivates the University and its staff. Furthermore, it provides better life to the stakeholders.

Research Methodology

The present study is primarily based on quantitative and exploratory approaches, which help to judge the QoL of internal stakeholders in RUB. Researcher assumed that stakeholders perceive the low quality of life in the non-green campus of RUB. Thus, the research is exploratory. The present study is guided by the six (6) criteria mentioned in the UI Green Metric World University Ranking.

Sample Size and Sample Selection Methods

The sample size determined for students and staff selection is 368 and 285 respectively (Krejcie & Morgan, 1970). The sample selection was done through the simple random sampling method.

Questionnaire Type

A close-ended questionnaire was circulated among respondents. The questionnaire includes questions that cover different aspects of perception of Green Campus and

its impact on QoL. The questions were designed using the six indicators mentioned in the UI Green Metric survey (2018).

Data Analysis

The survey data is analysed using Mean, Z test-2 samples of mean and by calculating Quality of Life index value.

Stakeholder's Perception of Quality of Life on the RUB Campus

Table 1 demonstrates the quality of life of the RUB stakeholders. The perception about the quality of life is almost the same for the staff and students. As per the QoL index staff cohort has scored 76.91% and the student cohort has a score of 76.82%. The overall observation is that QoL offered by RUB to its stakeholders is satisfactory. Figure 2 and 3 demonstrates the QoL index of the staff and students respectively.

H0: There is no significant difference in perception of QoL among the students and staff.

H1: There is a significant difference in perception of QoL among the students and staff.

Table 2 shows the result of z test. The p-value at the 5% significance level is 0.933 which is much higher than 0.05. Thus, we fail to reject the null hypothesis. Therefore, it is concluded that there is no significant difference in perception of QoL among the students and staff. The inferential statistical findings are similar to the findings of the descriptive statistics. Thus, it is concluded that the quality of life offered by the RUB to its different stakeholder is satisfactory.

Important Indicators from RUB Perspective

The Table 3 depicts the mean of each indicator mentioned in the UI Green Metric World University Ranking. Based on staff and student perception waste management in the RUB campuses are excellent. Waste management ranks top among all the indicators. However, staff perceives that transport management is poor among all the colleges of RUB. On the other hand, students perceive that the setting and infrastructure facilities are not good in RUB colleges. Table Number 4 shows the grand mean of the Green Campus Indicators based on the survey results of the stakeholders.

Conclusion

The purpose of the study is to compare stakeholders' perceptions of perceived QoL at RUB's Non-Green College Campuses. The findings of the study clearly demonstrated

that both staff and students are content with sustainability characteristics on their campus and have a higher perceived quality of life. The QoL index is employed to demonstrate this. According to the Z-test, there are no significant differences in perceptions of QoL between students and staff. By analyzing the mean score of the six Green Campus characteristics, it has been determined that RUB college campuses do exceptionally well in the waste management indicator. According to the findings, performance in the areas of transportation and infrastructure management is not up to par. An institution with a higher UI GreenMetric World University Ranking is expected to provide superior sustainability management and quality of life. However, any steps are taken in accordance to the UI GreenMetric World University Ranking criteria like, reduction in the use of private vehicles, should be carefully considered to avoid jeopardizing stakeholders' decent quality of life. Universities should promote and endeavor to embrace the criteria outlined in the UI Green Metric World University Ranking for their campuses. Being a green institution will boost stakeholders' positive perceptions of campus QoL. The Green campus initiatives will also enable stakeholders at the university to gain a better understanding of sustainability. The Green Campus project could potentially be used by Institutions for marketing purposes during the student's admissions process. Green Campus programs appear to be one of the most visible ways to promote and support global sustainability.

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Table 1: Quality of Life Index

	Actual Score	Maximum Score	Index value
Staff			
290	5576	7250	76.91%
Students			
370	7106	9250	76.82%

Source: Author's Analysis

Table 2: Z-Test- Two Samples for Mean

	QoL Score (Student)	QOL Score (Staff)
Mean	19.205	19.228
Known Variance	11.64	10.99
Observations	368	285
Hypothesized Mean Difference	0	
Z	-0.084	
P(Z<=z) one-tail	0.466	
z Critical one-tail	1.645	
P(Z<=z) two-tail	0.933	
z Critical two-tail	1.960	

Source: Author's Analysis

Table 3: Mean of UIGMR Indicators

Items	Staff	Rank	Items	Student	Rank
Mean (WM)	4.14	1	Mean (WM)	4.14	1
Mean (EE)	3.97	2	Mean (Water Management)	3.96	2
Mean (Water Management)	3.97	3	Mean (TM)	3.96	3
Mean (ESC)	3.86	4	Mean (EE)	3.96	4
Mean (SI)	3.86	5	Mean (ESC)	3.87	5
Mean (TM)	3.69	6	Mean (SI)	3.85	6

Source: Author's Analysis.

Here, WM= Waste Management; EE= Environmental Education; SI = Setting and Infrastructure; TM = Transport Management; ESC = Energy and Climate Change

Table 4: Mean of Dimensions Measuring Green Campus

Items	Staff	Student	Grand Mean	Rank
Mean(WM)	4.14	4.14	8.29	1
Mean (EE)	3.97	3.96	7.93	2
Mean(Water Management)	3.97	3.96	7.93	3
Mean (ESC)	3.86	3.96	7.82	4
Mean(SI)	3.86	3.87	7.73	5
Mean (TM)	3.69	3.85	7.54	6

Source: Author's Analysis

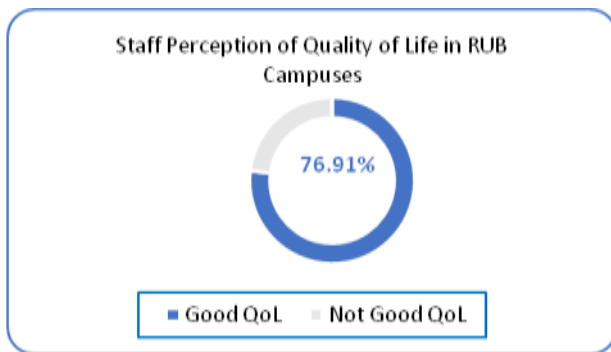
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Figure 1: Theoretical Framework



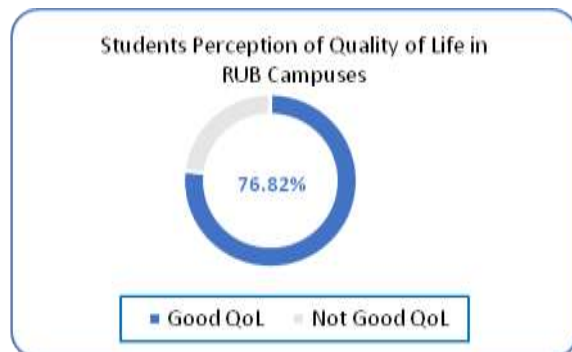
Source: UI Green Metric, 2018

Fig 2: Staff Perception of QoL



Source: Author's Analysis

Fig 3: Student Perception of QoL



Source: Author's Analysis