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Innovative strategic planning for a sustainable green university: University of Ruhuna, Sri Lanka

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Abstract. University of Ruhuna (UOR) consists of ten faculties that spread over 366 acres in six different locations in the Southern Province of Sri Lanka. Economically viable and mutually benefited public-private partnerships, which ensure the common direction for the different goals of stakeholders, are the principles of strategic green planning of the University. This paper presents two key sustainable initiatives of UOR. The proposed strategic landscaping project has been focused to utilize the open space which accounts for 60-70% of the total land area. The total open space will be divided into manageable zones based on geographical characteristics. Private sponsorships will be sought to cover the initial capital and maintenance cost, allowing sponsors to do selected promotional activities within their zones. The second project is the establishment of a sustainable, modern agribusiness venture. Thirty acres of land will be rented out for a private company and the company has to share the profit with the University. University will provide consultation and technical support to the project. Cultivation of Cinnamon, Pepper and other unique spicy crops, production of organic fertilizer and bio char, protected agriculture project, Cinnamon oil extraction plant and solar power project are the key components of this initiative

Keyword:
Green university, Public-private partnerships, Strategic planning, Sustainable

1. Introduction

University of Ruhuna (UOR) is one of the topmost state universities in Sri Lanka in terms of its academic and research profiles. As a socially responsible higher education institute, acheiving the sustainable developemt across all dimensions is our main priority. For instance, the cooperate goals of the university have been perfectly alligned with UN Sustainable Development Goals. In concurrence with the national policies and future projection report developed based on the sustainable development goals, UOR continued to implement

activities related to the Green Environment concept during the last few years. Accordingly, many activities to safeguard the environment and mitigate any negative impact on the environment have been implemented over the last few years such as waste management projects and tree planting programs towards zero carbon footprints [1].

However, the lack of innovative strategies to pursue the sustainability goals of the university is a critical issue. Rather than the convetional green initiatives, it is crucial to focus on more innovative, well-organized strategies to achieve the sustainability goals. Public–private partnership (PPP) which has been proposed by the United Nations as a tool for Sustainable Development Goals, is extremely important in that scenario [2,3]. The objective of this paper is to explore the strategic planning process adopted by the university to pursue sustainable goals and explain two sustainability projects implemented by the UOR.

2. Literature Review

There are multivariant environmental, economic and social problems in the modern world, which should be addressed through the individual, organizational, national and global level [4]. In that context, the concepts of sustainability and sustainable development have become major driving forces of addressing those complex issues. Sustainability is an integrated concept comprising four inter-linked pillars: environmental, economic, social and cultural consideration [5]. Unversities and higher education institutions are under increasing pressure to change in accordance with sustainable paradigms. Currently many universities have implemented green campus initiatives and other sustainability efforts, primarily focusing on the environmenetal aspects [6].

The concept of Green University is a much broader concept which encompasses various dimensions. A green university is a complex system [7]. Fissi *et al* (2021) introduced a framework (Fig.1), which intergrates six dimensions to eloborate the concept of sustainability at green universities; institutional framework, campus operations, teaching, research, community engagement, and accountability and reporting [8]. Furthermore, the green university concept could be defined based on five primary dimensions: teaching and learning, research, campus operations, administration, and outreach [6]. These frameworks provide guidance for achieving sustainable green objectives of the higher education institiutions. The tool kit to transforming universities into green and sustainable campuses which was suggested by the UNEP provide a comprehensive guide for the the green initiatives of the universities [9].

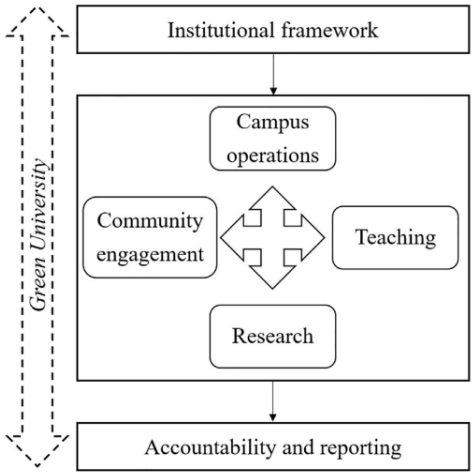

Figure 1. The dimensions of sustainability at green universities [8]

Strategic planning is a formal managerial process which extreamly useful for the mangement of public universities. It is a process of allocating resources in the most efficient manner while compelling with the vision and the mission of the institute to acheive organizational strategic milestones and competitive advantage [10]. Strategic planning is a process of determining the vision, mission, objectives, strategies and policies that govern the acquisition and allocation of resources to achieve organizational goals and objectives [11].

Universities should treat sustainability and green focus as innovation's new frontier.

University shall adapt creative innovation strategies to achieve sustainable outcomes. What innovation activities do university engage in to become greener? depends on the various factors. The model suggested by Network for Business Sustainability (2012) suggested three levels of sustainable innovation including operational optimization, organizational transformationa and system building [12].

3. Theoretical Framework

The strategic planning process followed in the University of Ruhuna could be theoretically explained by the following strategic planning framework defined by Maleka (2015) [13]. Accordingly, the strategic management and planning process consists of sequential five key steps; (i) Goal setting, (ii) Analysis strategy formation, (iii) Strategy formation, (iv) Strategy implementation and (v) Strategy monitoring.

Goal setting is the primary step of the strategic planning process. It encompasses all the aspects relevant to creation of organizational goals and objectives, which is compatible with the vision, mission and values of the organization. Goal setting is the fundamental for strategic decision making and pursuit strategic opportunities.

The second step involves in critical analysis of both external and internal factors to identify the strengths, weaknesses, opportunities and threats of the organization.

Strategy formation is the development of specific actions or plans that will enable to meet the organizational goals. This step involves in using the information identified from the previous analyses for rational decision making. Accordingly, the strategies should be formulated by tactically combining the organizational strengths with the external opportunities to overcome the organizational weaknesses while minimizing the external threats and risk factors.

Strategy implementation is putting the formulated strategy into the practice by gathering all the available and required resources to bring the strategic plan to practice. This includes budgeting, designing action plans, programs and policies to meet financial, management and operational goals. It is important to rationally allocate monetary, physical and human resources at the implementation stage to achieved the defined goals.

The final phase t is monitoring of the implemented strategy. Monitoring is the evaluation of the actual performances or outcomes comparing to the goals and anticipated outcomes. Strategy monitoring is an essential element of the process to identify the required modification of the plan.

3.1. Conceptual Framework

The conceptual framework elaborates the strategic planning process adopted by the UOR to foster the sustainable green initiatives (Fig. 2). Initially, a set of secondary objectives were developed under the scope of the sustainable green goals.

The second phase is the identification and analysis of the internal and external factors associated to the university in terms of strengths, weaknesses, opportunities and threats. The total land area of the University of Ruhuna is 366 acres. The open space is around 60-70%, which accounts for 220- 256 acres. Open spaces are covered with natural or planted vegetation and water bodies. However, majority of the open space is underutilized or marginal lands. These lands could be effectively utilized in economically viable, ecologically

sound and socially responsible manner. As a state university, limited funds are main constrain for implementing green initiatives. However, regional businesses and companies have a strong willingness to collaborate with the university as a result of maintaining healthy relationships with the industrial stakeholders. The image and recognition of the university as the major educational hub in southern Sri Lanka is a key drive to attract private investments to the university. These partnerships and linkages are great opportunity to the university to establish mutually benefitted public-private partnerships.

As a state university, the public-private partnerships are an integral tool of our strategic planning to overcome the financial crisis which has been intensified under the current pandemic situation. For instance, this paper presents two strategic projects formulated targeting the PPPs aiming to achieve sustainale green objectives.

These two projects are in the initial stage of implementation. First, the project proposal and landscape plan were developed. The MOU developed for the joint agribusiness venture will be signed by the two parties of the project; UOR and the companies. An agreement will be developed for signing with the private sponsors of the landscaping project. The financial plans, budgets and timeframes have been already approved.

A project mangement commitee will be assigned for monitoring the joint agribusiness venture. It will consists of the Vice Chancellor, Deputy Vice Chancellor, Dean/ Faculty of Agriculture, Dean/ Faculty of Management and Finance, Registrar, Bursar, Chairman/ Managing Directors of the companies and two Council members. The Project Management Committee shall meet once in every three months and monitor the project performances. The landscaping project will be monitored and supervised by the already functioning landscap committee of the university. This committee will evaluate the performances once a two months.

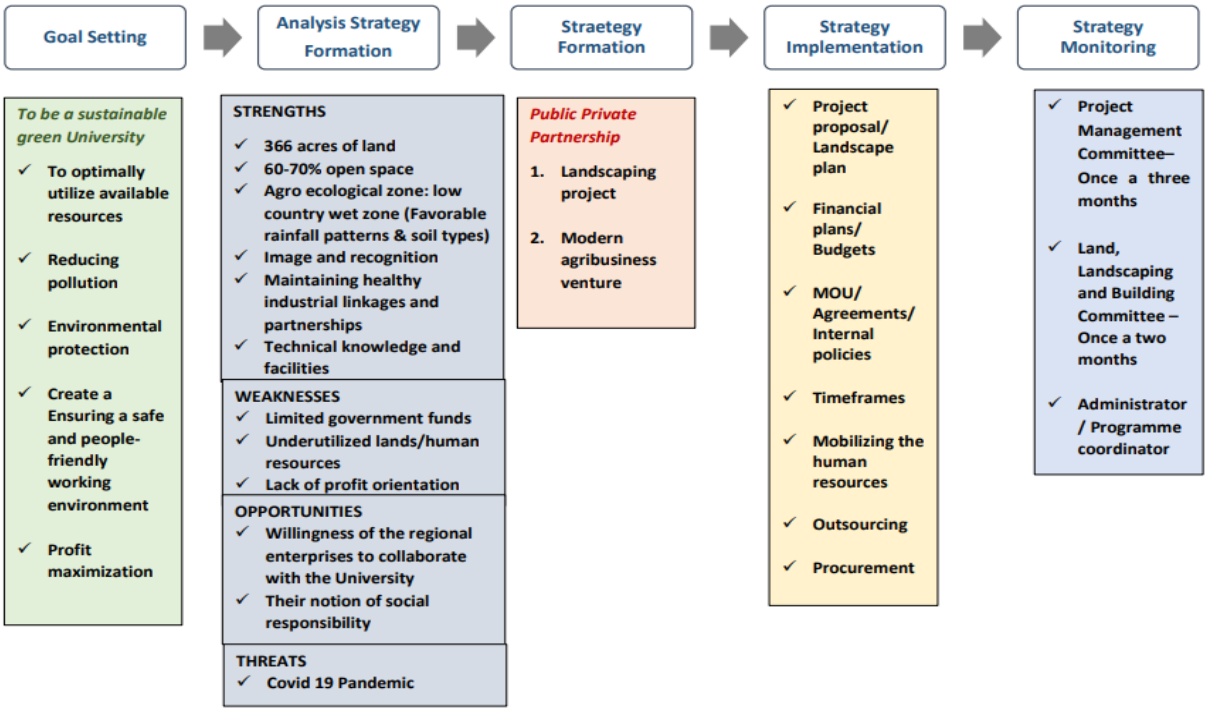

Figure 2. Conceptual Framework: Strategic Planning Process

4. Practical Implications

4.1 Landscaping project

There is a wide range of benefits of introducing a well-designed landscape plan to the university. Landscapes provide soothing environmet for mental health and scholastic performance. This helps people to relax, get some much-needed outdoor time and relieve stress. Having well maintained green spaces and shade trees can save cooling costs of the buildings.

The architechtural design of UOR was done by the world-renowned architect Geoffrey Bawa. This unique architectural design is enriched with ecological friendly features. A strategical landscape design that could be effectively synchronized with the architectural design, has a great potential to create exceptional aesthetical value. UOR has planned to implement strategic landscaping project with the collaboration of the private sponsors. The core concept of this project is to intoduce nature-rich, thematically defined, aesthetically sound and sustainable landscape zones within the university premises.

Under this project, the open spaces of the University premises could be strategically utilized in landscaping, which are first identified. Then the open space will be divided into prominent landscape zones considering the soil composition, light penetration, slope, natural vegetation, access and proximity to the buildings. Each landscaping zone is designed based on an appropriate thematic concept, (eg: Zen Garden, spice graden, medicinal garden) compatible with the inherent characteristics of the zone (eg: Zen Graden concept for the zone of the Department of Pali and Buddhist Studies). These zones will be allocated to groups of students to maintain, under the supervision of academic staff members.

UOR is seeking for sponsorships from the private sector for each landscaping zone. The main purpose of seeking sponsorship is to cover the initial capital and the annual maintenance cost of the zone. Sponsors have an opportunity to provide their suggestions to design the selected zones. The suggestions of the sponsors will be incorporated into the existing plan after reviewing by a landscaping technical committee. The sponsors are also allowed to do promotional ativities within their zone. This will be a productive and creative means of advertising and promotion to uplift the recognition and image of their businesses.

Figure 3. Landscape zone around the main administrative building of UOR

4.2 Modern Agribusiness Venture

This is a joint agribusiness venture established between the Faculty of Agriculture, UOR and a group of companies including Dishan Valley Tea Factory and Plantation, BioChar Fertz Pvt. Ltd and Austral Solar Pvt. Ltd. The core objective of this venture project is to sustainably utilize the available physical and human resources to create a commercial, high-tech, modern agribusiness venture in Sri Lanka. Further, this collaborative PPP aims to combine the roles of academics with the industry in the areas of agriculture and agriculture related research to provide both theoretical knowledge and practical experience to the undergraduates, graduates and post graduates. The students will be provided internships and gain practical experience as part of their academic curricula in the proposed modern agribusiness venture with the ultimate purpose of improving the technical competency and entreprenurial skills of agricultural students.

Under this project, thirty acres land of the university will be leased to the above companies on a Memorandum of Understanding (MOU) basis for the determined duration of thirty years. This land will be cultivated by the companies. Mainly Cinnamon, Pepper and other unique spicy crops will be grown in selected land slots. Additionally five differnt sub components such as organic fertilizer production, biochar production, protected agriculture project, cinnamon oil extraction and solar power project will be integrated with the main project.

The university will provide consultation and technical assistance to the companies. The financial plan of the project is given in the Table 1. The annual rent and the share of the profit will be periodically incresed over the project life span.

Table 1. Financial plan of the project

Period (Years)	Amount per Annum (Rent) [LKR]	Profit sharing (As a percentage of annual profit)	Royalty (5% of the annual rent paid to the Government) [LKR]
1-4	1,200,000.00	-	60,000.00
5-10	1,600,000.00	5%	80,000.00
11-20	2,000,000.00	10%	100,000.00
21-30	2,000,000.00	20%	100,000.00

5. Concluding Remarks

The strategic planning process and management provides the direction to achieve the suitable goals of the universities. Even though this paper explains two pilot sustainability projects in environmental sustainability perspective, the green university concept is a wider concept than the frontiers in here. UOR has already explored the green strategies for initiating transformation. We have a long-term plan to pursue the sustainable goals and currently the university is in the initial stage of the green transformation.

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