

Sustainability-led Institution: Case of Universiti Sains Malaysia, Penang

SLIDES PRESENTATION



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Learning Objectives

1. To improve stakeholders' knowledge and capacity on sustainable consumption.
2. To identify and rank resources used for operational activities which have high material/resources consumption.
3. To determine framework for sustainable consumption of the institution.

Learning Case

UNIVERSITI SAINS MALAYSIA, PENANG

Introduction

- Established as the second university in the country in 1969,
- In 1971, the campus, which was originally planned to be situated in Sungai Ara, moved to its present site, Minden, a beautiful location.
- Universiti Sains Malaysia main campus is located within a tropical island of Penang, Malaysia with a land area of 591.72 acres (240.13 hectares).
- There are two USM branch campuses
 - one at Kubang Kerian in Kelantan (approximately 300km from the main campus) known as Health Campus
 - Another at Nibong Tebal (approximately 50km from the main campus), known as Engineering Campus.



Box 1: Universiti Sains Malaysia Institutional Framework

1. Administrative centers
2. Centers of Excellence (research centers)
3. Teaching faculties
4. Service centers
5. Students hostels

Table 1: Number of staff in Universiti Sains Malaysia

| Staff | Campus | | | Total |
|---------------------------|--------|--------|-------------|-------|
| | Main | Health | Engineering | |
| Academic | 1149 | 563 | 236 | 1948 |
| Management & Professional | 583 | 397 | 87 | 1067 |
| Support | 2609 | 3573 | 526 | 6708 |
| Total | 4341 | 4533 | 849 | 9723 |

| Student | Campus | | | Total |
|------------------------------------|--------------|-------------|-------------|--------------|
| | Main | Health | Engineering | |
| Doctoral | 3260 | 620 | 180 | 4060 |
| Masters | 4951 | 876 | 1458 | 7285 |
| Postgraduate Diploma | 350 | 0 | 0 | 350 |
| Undergraduate (full time) | 8611 | 2461 | 2117 | 13189 |
| Undergraduate (distance education) | 7109 | 0 | 0 | 7109 |
| Diploma | 0 | 254 | 0 | 254 |
| Total | 24281 | 4211 | 3755 | 32247 |

Table 2: Number of Students Enrolment in Universiti Sains Malaysia

Sustainability Initiatives @ Universiti Sains Malaysia

- 2000 - Kampus Sejahtera
 - *Kampus Sejahtera* (Sejahtera is Malay word which could be loosely translated to healthy or wellbeing, so *Kampus Sejahtera* is Healthy Campus) concept emerged from the realisation that the main factors for enhancing learning are the quality of life and the health of students in a wider context. This indigenous word *sejahtera* cuts across several dimensions of the spiritual, social, physical, mental, intellectual, emotional and environmental aspects. It acts as societal glue that bonds things together in a harmonious and optimal balance with one another.
- 2001 - University in A Garden
 - depict the close affinity between the role and function of the University as an institution of higher learning and nature as part of the global ecological setting

Sustainability Initiatives @ Universiti Sains Malaysia

- 2005 - RCE Penang
 - United Nations University – Institute of Advance Studies (UNU-IAS) recognised Universiti Sains Malaysia as an RCE (Regional Centre of Expertise) on Education for Sustainable Development
- 2009 - APEX University
 - Awarded the Accelerated Programme for Excellence

A two-pronged strategy was developed to align all initiatives towards the university's vision and mission (see Box 2).
The strategies are to be 'World renowned sustainability-led university' and 'World Class University for Sustainability'.



Sustainability-Led University

- In 2009, Universiti Sains Malaysia developed a sustainability roadmap (CGSS 2009) to build capacity at individual, institutional and systemic levels to produce graduates who are equipped to address the sustainability challenges facing their communities and the world at large.
- The roadmap focuses primarily on WEHAB sectors of water, energy, health, agriculture and biodiversity. In addition, three very closely-related cross-sector: climate change and disaster risk management, population and poverty, and production and consumption issues.

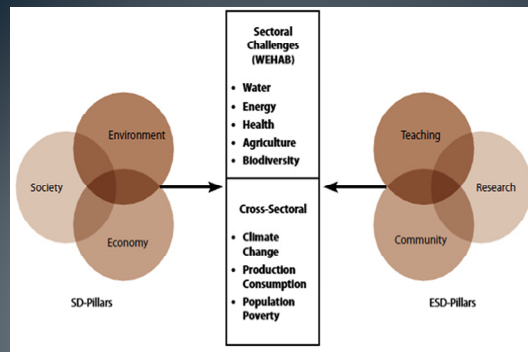


Figure 1: USM's model for sustainability mainstreaming (CGSS 2009)

- It factors the major sustainability challenges that span across the three pillars of sustainability—economy, environment, and society into the university's mission activities in the three pillar areas of education – teaching, research, and community engagement.
- This provides for various combinations of engagement for any given sustainability issue through a variety of educational approaches. Also, this model allows an entry point for all sections of both academic and non-academic staff to be involved in sustainability activities, regardless of the section of the university for which they work

- The operational system in Universiti Sains Malaysia could be divided into FIVE major systems based on their core function:
 1. Administrative centers
 2. Centre of Excellence (research centers)
 3. Teaching faculties
 4. Service centers
 5. Students hostels
- The units exist as individual ecosystem and at the same time also interacting with other units (ecosystem) in the university vertically and horizontally (hierarchy of power).
- In essence, everyone in campus including academics, students, administrative and support staff (stakeholders) work together and advocate the sustainability agenda of Universiti Sains Malaysia.
- Among the major challenges faced by Universiti Sains Malaysia is to identify, train and nurture champions (Agents of Change) and reaching out to the campus community.

Sustainability-Led Interventions

- Universiti Sains Malaysia aims to promote sustainable consumption in campus focusing on usage of resources/materials in the daily operational activities in campus.
- Universiti Sains Malaysia operational activities are focused on teaching, research, community engagement and other related institutional activities.
- In general, all these activities directly and indirectly consume common resources such as electricity, water, paper and stationery.



- Transforming the campus to a sustainability focused institution requires involvement of all the stakeholders.
- Motivations of different Agents of Change have to be consolidated if change and optimization in the material consumption and reduction are to be achieved.
- The consolidation process of these agents can be realized through stakeholder dialogues and focus group discussions.
- Stakeholder dialogues bring different perspectives together, and enable stakeholders to seek solutions together.
- This process explores the capacity for identifying innovative solutions for sustainable development

Stakeholders

- Stakeholders of different divisions in USM
- stakeholders from the different divisions need to identify the types of materials used and this act as a baseline to determine the material consumption and practices.

| | Administrative | Centres of Excellence | Teaching Faculties | Service Centres | Student Hostels |
|-------------------------|----------------|-----------------------|--------------------|-----------------|-----------------|
| Administrative Officers | ✓ | ✓ | ✓ | ✓ | ✓ |
| Research Officers | | ✓ | ✓ | | |
| Science Officers | | ✓ | ✓ | | |
| Technicians | ✓ | ✓ | ✓ | ✓ | ✓ |
| Laboratory Assistant | | ✓ | ✓ | | |
| Clerks | ✓ | ✓ | ✓ | ✓ | ✓ |
| General workers | ✓ | ✓ | ✓ | ✓ | ✓ |
| Drivers | ✓ | ✓ | ✓ | ✓ | |
| Lecturers | | ✓ | ✓ | | |
| Postgraduate Students | | ✓ | ✓ | | |
| Undergraduate Students | | | ✓ | | |

Intervention Strategy and Action

- Stakeholders have important role in changing the way decisions are made for successful intervention strategies and actions.
- Hence, stakeholders require:
 - knowledge about consumption issues,
 - skills (management and technical) for execution of strategies and actions,
- Example of knowledge fundamental for stakeholders to make informed, appropriate decisions to achieve sustainable consumption
 - Introduction to sustainable development,
 - World view/ perspectives
 - Local issues related to sustainable consumption (water supply shortage, waste management, energy etc.)

Monitoring and Evaluation

- Conducting a monitoring and evaluation exercise is considered good practice in managing an intervention.
- The monitoring of the strategies and actions allows us to track progress and identify consumption issues, thus providing an opportunity to take corrective action or make proactive improvements as required.
- The evaluation of strategies and actions provide an indication of level of achievements.
- It also allows you to repeat activities that have been demonstrated to work, and you can improve on, or discontinue activities that do not work.



Source: CGSS

The Challenge Ahead

- “Walking the Talk” is the main challenge of Universiti Sains Malaysia’s mission to become a sustainability-led institution.
- A huge challenge still awaits in the form of operationalisation. The existing mode of operation needs to change and mostly require a change in work culture, habits and lifestyle.
- Champions or individuals (Agents of Change) that advocate sustainable activities and able to lead the changes required in the beginning of the programme.
- Support by the university top management and involvement of all campus community are essential elements for effective and successful implementation of Green Office programme towards realizing a sustainability-led institution.

Discussion

Working Session 1: Identifying Resources

Working Session 1 aims to identify types and volumes of resources used by the different divisions, and the nature and volume of material/resources consumed in operational activities.

- Working in small groups, (assuming that your group members are stakeholders of the selected unit) conduct a stakeholder dialogue to analyse current scenarios of consumption in the different units and divisions (refer Box 1 and Appendix 1 for examples of divisions and units).
- Focus on the estimates of the types and volumes of resources used in the operational activities.
- Identify the operational activities which have high material/resources consumption and high possibility for reduction.

Discussion Questions

1. What are the activities of the units; what and how much resources are used on a daily/ weekly/monthly basis during present working culture?
2. Which activity could reduce its material/ resources consumption without affecting the efficiency of the operations?

- Working Session 1: Learning points

1. Identification of stakeholders relevant to sustainable consumption initiatives in a unit/ division.
2. Stakeholders discussion assist identification of activities that have high resource consumption in the different activities of the unit
3. Prioritizing the identified activities based on consumption and efficiency of the activities and informed decision making require knowledge on resources, management issues, technical issues and other values.

Working Session 2: Sustainable Consumption Framework

Working session 2 aims to determine framework for sustainable consumption of the units in a division.

- Working in small groups, assume that your group is a committee responsible for making recommendation that should be used by the unit/ division “sustainable consumption” initiatives.
- The discussion need to determine sustainable consumption goals, targets, strategies and actions, responsibilities, and indicators for the activities which have high material/ resources consumption (identified in Working Session 1).

Discussion Questions

1. What is the unit’s sustainable consumption goal and targets to meet the university’s vision to be a sustainability-led institution?
2. How to monitor the activities outcomes been achieved and the outputs been delivered in terms of quality, quantity and time?

THANK YOU FOR YOUR ATTENTION

Prepared by:
Asyirah Abdul Rahim*
Fera Fizani Ahmad Fizri
Kanayathu Chacko Koshy
Mahfuzah Othman
Norizan Md Nor
Suzyrman Sibly

* asyirah@usm.my