



CENTRE FOR GLOBAL SUSTAINABILITY STUDIES

There are a number of things, big and small, that USM can do on an on-going basis to implement sustainability to varying degrees.



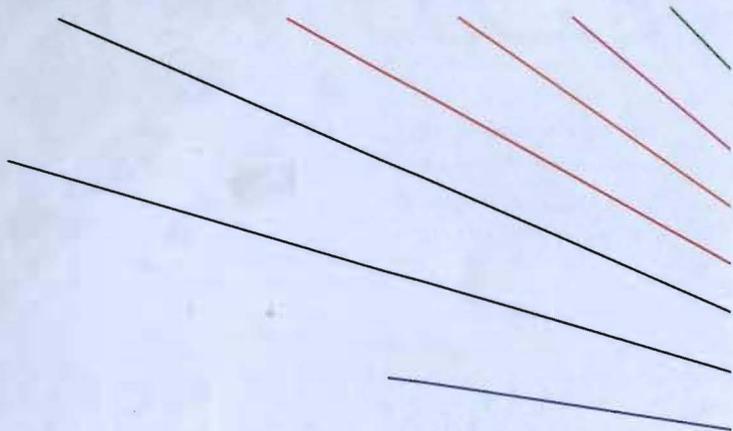
Implementation ideas What can USM do to **Fast-track** Sustainability



Please note that all suggestions point primarily to activities that individuals, groups or the institution could implement for the sustainability transformation we seek.



Here are some ideas from the Centre for Global Sustainability Studies, CGSS@USM.



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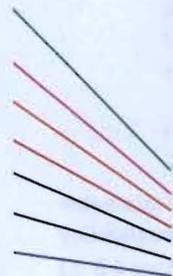
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Implementation ideas What can USM do to **Fast-track** Sustainability

1. Curriculum



1.1. Formal

- 1.1.1. Connect your lectures to sustainability (sustainable development, SD) topics (see USM-APEX sustainability Roadmap and 'WEHAB+3 or '5+3' in 'Sections 5 & 7') using locally relevant examples wherever and whenever possible. This will improve the effectiveness of your lecture and the relevance of your course.
- 1.1.2. Reorient existing courses moderately to incorporate sustainability ideas. Keep such changes limited to what can be managed within your section's decision process.
- 1.1.3. Where substantial changes or new course development is needed, do not shy away, but plan early, lobby and get it done in a cost effective way.
- 1.1.4. Make full use of distance, flexible and technology assisted teaching and learning approaches to reach out to the normally unreachable.

- 1.1.5. In the long run, all Schools need to pro-actively provide a coherent treatment of selected sustainability topics in a manner acceptable to their disciplines and the demands of the times.

1.2. Non-formal

- 1.2.1. Strategise to include sustainability themes in as many of your nonformal capacity building activities such as training, workshops, conferences, in-service and other academically non-credit activities.
- 1.2.2. Plan such activities as part of your KPI and implement them in collaboration with others as appropriate.
- 1.2.3. Become a meaningful partner of a few sustainability networks as possible; better still initiate such network/s and make it count in your workload. Asia-Pacific Network for global change research, Kobe, funds capacity building projects in sustainable development. USM-CGSS is planning to launch a network called, South East Asia Sustainability Network (SEASN) in October, 2013.





1.3. Informal

- 1.3.1. Strategise to include sustainability issues in as many informal awareness building initiatives, such as seminars, debates, brochures, fact sheets, student radio, newsletters and other similar channels.
- 1.3.2. Develop educational materials, preferably in collaboration with target communities, to create interest in and appreciation of solution oriented approaches to sustainability.
- 1.3.3. Make sustainability an underlying focus of all media releases, light publications and chance education efforts of your section.
- 1.3.4. Use indicator based monitoring and evaluation schemes to ascertain that planning and implementation proceed well. Such monitoring will alert us to emerging problems in advance and help improve performance. USM's SAM is one such simple approach.

2. Research



2.1. Process

- 2.1.1. 'Process research seeks answers to questions such as 'what has happened?', 'what is going on?', 'where are we going?' or 'what should we do?' within the context of a program or project and its outcomes. Carry out process research as an evaluative exercise and learn by doing and improve by iteration.
- 2.1.2. 'Research on: (i) sustainability integration efforts of your division, (ii) student centered and transformative learning, (iii) multimodal approaches to sustainability teaching, (iv) campus sustainability, (v) knowledge transfer to community or industry, and (vi) university governance for sustainability promotion.
- 2.1.3. 'Research on barriers (obstacles) and drivers (opportunities) of interdisciplinary (and multi or transdisciplinary as the case may be) research needed for sustainability promotion.

2.2. Fundamental

- 2.2.1. Fundamental or basic research generates new ideas, principles and theories, which are the foundation for modern progress in different SD fields. Get involved.
- 2.2.2. Research the implications, at all levels, of the 'WEHAB+3' (or 5+3) challenges articulated in the USM-APEX Sustainability Roadmap. Select sustainability issues that matter most to your disciplinary area, paying particular attention to their interdisciplinary linkages.
- 2.2.3. A clear understanding of the newly emerging field of 'Sustainability Science,(SS)', will help you navigate this approach. Promote sustainability research. See 'Section 7'
- 2.2.4. Focus student and faculty research on epistemologies and methodologies for understanding and acting on pressing sustainability challenges of your country, ASEAN and the world; see 'The Future We Want', 'Sections 6 & 7' for ideas.



2.3. Action & applied

- 2.3.1. Both are practical applications of scientific knowledge and skills to solve problems of modern world. In action research though, development of solutions to local problems in a participatory way is a primary goal. This approach is often used to address sustainability issues such as, the restoration of polluted rivers, rehabilitation of endangered ecosystems, reducing flood risk of coastal communities, provision of renewable energy power to remote communities, making telehealth services accessible to communities etc. Innovative solutions to environmental, social or economic problems are patentable and publishable in high impact journals. Lead such research for which the primary expertise lies in your discipline, while looking for partnership possibilities with other disciplinary experts. Look up AtKisson's Compass approach for ideas.
- 2.3.2. Focus on WEHAB+3 themes, United Nations Sustainable Development Solutions Network (SDSN), and the global Future Earth research program (10-year), while selecting research themes and projects.
- 2.3.3. Use 'Logical Framework Analysis/Approach (LFA)' and multicriteria decision making to design and implement sustainability projects (contact CGSS for help).

3. Community engagement



3.1. Campus

- 3.1.1. Get to know more about USM campus community activities and volunteer in one or more of them that matter to you most.
- 3.1.2. Start new student-led activities and provide leadership.
- 3.1.3. Be part of on-going or new projects in integrated waste management, auditing of energy, and water use.
- 3.1.4. Get involved in Materials Flow Analysis (MFA), campus eco-system care, Eco-hub activities, Tasik Harapan rehabilitation, and similar initiatives at USM.
- 3.1.5. Promote campus greening initiatives as a de facto aspect of student life in your section.



3.2. Private

- 3.2.1. Get connected to on-going private sector (local community groups, schools, industry, business, SMEs etc) initiatives promoted by the university (e.g. BJIM of USM or KTP of MOE).
- 3.2.2. Be part of groups promoting CSR, fair trade, consumer protection, knowledge transfer and intellectual property concerns and issues.
- 3.2.3. Work with natural resource owners and the business/industry community to promote sustainable use of scarce resources.
- 3.2.4. Promote awareness and capacity building activities for integrated waste management.

4. Institutional Arrangement



3.3. Public

- 3.3.1. Work closely with government ministries, quasi government organizations, UN system bodies (UNEP, UNESCO, UNDP, UNDESA, UNITAR etc) and Global change network groups (such as WWF, ICSU, Future Earth, START, APN etc.) for the promotion of education for sustainable development (ESD) and SS.
- 3.3.2. Through active participation, promote MEAs (multinational environmental agreements) and UN based international sustainability summit activities – at both pre and post-summit phases.
- 3.3.3. Provide policy briefs, policy discussion reports, consultancy services and project coordination to the above agencies and their initiatives as appropriate.

3.4. NSA

- 3.4.1. Non State Actors include NGOs, FBO (faith based organizations), NPO (Non-Profit Organizations), Professional networks, Donor partners etc. Befriend them.
- 3.4.2. Ensure you are engaged with one or more of these actors to promote sustainability.
- 3.4.3. Promote your section/institution as a meaningful partner of NSA at different levels.

4.1. Corporate functions

- 4.1.1. Proactively promote corporate greening initiatives at the institutional or divisional level. By corporate functions is meant a university's vision, mission, sustainability strategy, policies, staffing, work ethics, infrastructure (hard and soft), procurement, utilities, landscaping, and services such as library, clinic, eating places, banks, sports, transport, computer centre, shops, meetings, accommodation, waste management, monitoring and evaluation etc. at different levels.
- 4.1.2. Identifying special drivers and barriers for improving efficiency, starting new initiatives, retrofitting old structures and building new infrastructure that meet green standards, are all part of this new move and it may often take one through roads less travelled. Travel anyway.
- 4.1.3. Ambitious goals must match ambitious resources – both human and financial. This is an important aspect of 'making it happen'.



4.2. The Tools

4.2.1. Equally important are the tools we select for tasks that we prioritise. Of all the innovative approaches, a proactive university on a sustainability pathway will find itself embracing the principles and practices of: (i) Education for Sustainable Development and (ii) Sustainability Science. Support initiatives under these realms.

4.2.2. Along with disciplinary knowledge and skills required for the modern world, the right perspectives within which each challenge needs to be addressed, the value systems and the world view within which one needs to operate too are critical for ESD promotion. Organise debate, discussion and training to familiarise and internalize ESD.

4.2.3. As Kates remarks, “the distinctive knowledge created by SS is use-inspired and, at its best, provides solutions to real-world, often place-based, problems encountered for the needs of a sustainability transition”. “It (SS) is a different kind of science that is primarily use-inspired, as are agricultural, health and computer sciences, with significant fundamental and applied knowledge components, and commitment to moving such knowledge into societal action”, (Kates. R, 2010, Readings in sustainability science and technology, Working papers, Centre for International Development, Harvard University). Organise debate, discussion and training sessions to familiarise and internalise SS.



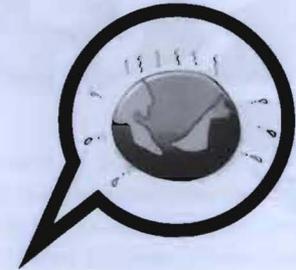
5. Monitoring and evaluating progress



5.1. All activities under Sections 1-4 need to be monitored and evaluated continually to ensure progress. A case specific and sustainability indicator (SI) based approach is used at USM for this purpose. For details, please see the following:

- 5.1.1. SMART Indicators for Sustainability @ USM, A Framework and Guidelines for Action.
- 5.1.2. An Indicator-Based Approach to Sustainability Monitoring and Mainstreaming at Universiti Sains Malaysia, 2013, Kanayathu Koshy et al; S. Caeiro et al. (eds), Sustainability Assessment Tools in Higher Education Institutions - Mapping Trends and Good Practices Around the World, DOI: 10.1007/978-3-319-02375-5_14, Springer International Publishing Switzerland, ISBN 978-3-3-319-02375-5; 2013
- 5.1.3. Based on the above publications, all practitioners will be able to develop specific indicators for monitoring their own projects.

6. What is 'WEHAB+3' or the '5+3' approach?



- 6.1. WEHAB is an acronym for 'Water, Energy, Health, Agriculture and Biodiversity' – the big five – (there is also a play with this tagline as 'big five' is used by South African safari promoters to attract attention to (lion, leopard, rhino, elephant and buffalo)), popularized by UN during the Rio+10 meeting, World Summit on Sustainable Development (WSSD), Johannesburg, 2002.
- 6.2. The Challenges in these five important sectors mainly define the major sustainability problems confronting the world. Add to this the three cross-sectoral challenges (climate change/disaster risk management; production/consumption; and population/poverty), and then we have a full spectrum of sustainability issues that need urgent global attention.

7. What is sustainable development or sustainability by the way, and how is it connected to USM?



7.1. For a start, please read 'USM-APEX Sustainability FACT Sheets prepared by CGSS@USM (a dozen A4 sheets addressing topics such as USM-APEX, SD, ESD and Green growth);

7.2. Please follow this up with:

7.2.1. 'USM Policy on Sustainability 2013'

7.2.2. 'Transforming Higher Education for a Sustainable Tomorrow', April 2008, ISBN 978-983-3986-30-9.

7.2.3. 'USM-APEX Sustainability Roadmap', December 2009; ISBN 978-967-5417-59-7.

7.2.4. 'Transforming Higher Education for a Sustainable Tomorrow: a Case of Learning by Doing at Universiti Sains Malaysia', 2010, Tomorrow Today, p106-109, Pub by Tudor Rose on behalf of UNESCO, ISBN 0-9536140-8-5.

What can USM do to Fast-track Sustainability



7.2.5. The Ethical Dimension of Sustainability in Higher Education: Applying the Principles of the Earth Charter in Malaysia & Beyond, Joint publication by the Centre for Global Sustainability Studies at Universiti Sains Malaysia, and the Centre for Environmental and Sustainability Education at Florida Gulf Coast University; ISBN 978-967-394-040-0.

7.2.6. 'A Vision for Sustainability Transformation at a Knowledge base Institution', 2012, Future Perfect, p59-63, Pub by Tudor Rose on behalf of the United Nations, UNDESA, ISBN 978-0-9568561-2-8; Also, web search for:

7.2.7. Sustainability Science: an emerging field for in-depth sustainability studies.

7.2.8. Agenda 21, the major outcome document of Earth Summit, Rio 1992; Johannesburg Plan of Implementation, the major outcome of WSSD, the 10-year review of Earth Summit, 2002; and the 20-year review outcome of Earth Summit (Rio+20), 'The Future We Want', Rio 2012.

For items 5.1 to 7.2.8, please visit, <<http://cgss.usm.my>>

...to know, to do, to partner & to be...

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"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"
- Brundtland Commission, United Nations



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