

Module 3

Institutional Capacity Development for ESD

In considering the roles and functions of a university in promoting sustainable development, the following issues should be particularly addressed:

- *strengthening interactions with actors outside the university, in particular with local communities and with businesses, and*
- *introducing decentralised and flexible management concepts.*

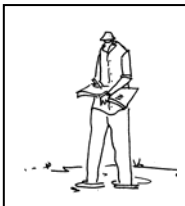
"… Universities can contribute to sustainable development in various ways. First, by giving sustainable development a place in all university curricula and educational and research programmes … Second, by playing an important role as local knowledge centres for sustainable development in order to help society meet the challenge at the local level. Third, by making sustainable development a leading principle in their own logistics and managerial processes ."

(www.unesco.org/education/desd)

Module Outcomes

At the end of this module, participants should be able to:

Develop and apply innovative strategies to strengthen institutional capacity to address and respond to environmental and sustainable development issues.



This will be evident when the participant:

- Recognises and critically considers the limitations and possibilities that current institutional set-ups offer for innovations that are aimed at strengthening institutional capacity to address environment and sustainable development issues.
- Develops and applies innovative strategies to strengthen institutional capacity that take account of, and are located within institutional history and philosophy.
- Describes instances of involvement and opportunities for participating in institutional capacity-building for addressing and responding to environmental and sustainable development issues.
- Uses key university structures (policies, strategic planning, management committees, course approval structures, etc.) to support and develop innovative strategies that build institutional capacity to respond to environmental and sustainable development issues.
- Develops strategies and skills to plan, monitor, evaluate and review institutional capacity and institutional changes.

Why focus on institutional capacity for ESD?

As we have seen in Modules 1 and 2 of this ESD Innovations course, introducing sustainable development into the university system will require a number of innovations. Firstly, teachers and managers will need to create spaces for themselves and for their students **to learn about sustainable development**. Secondly, teachers and researchers will need to **reorient their teaching and research in different ways**. As we explored in Module 2, there are many different possibilities for such reorientation. Lecturers can be as adventurous as their context will allow them. For example, in a very structured learning environment, where little change in the formal curriculum structure is possible, a lecturer could experiment with new teaching methods as an innovation and encourage the students to participate more in his/her lectures in different ways. In contexts where more latitude for broader changes is possible, lecturers could reorient their entire curriculum, or experiment with trans-disciplinary programmes, and introduce service-learning activities. However, lecturers rarely operate as isolated

individuals. They are part of an institutional set-up which will also need to be party to the implementation of innovative strategies to respond to sustainable development needs. This is the topic that we address in this module.

It is well-known that university structures and programmes do not change easily, and that there are layers of procedure and bureaucracy keep an institution stable. This is a strength in the sense that if innovations are taken up into the institution they are likely to be relatively stable. However, it could also be a barrier or difficulty when planning and implementing innovations for sustainable development.

This module considers those aspects of a **university system** that can be strengthened to support the implementation of ESD innovations. Universities are complex systems, involving multiple structures and a wide range of actors. In this module, we draw heavily on different case studies (on the experience of others who have done this before us), to illustrate the dynamic and often unpredictable nature of institutional capacity building for ESD. In doing this, we recognise that no single university system is the same. Each university system will have its own dynamics that will influence the way in which innovations can 'seed and grow' within the institution. We begin by examining the broader context, and some of the 'articulated needs' for innovation in universities.

In arguing for the reorientation of Science and Technology for Sustainable Development, the International Council for Science (2002) noted that there are a number of factors that are important for institutions to 'fulfil the contract' [of working towards sustainable development]. These include:

Consult the toolkit for more information on these recommendations from the International Council for Science (2002).

- **Institutions need to link knowledge and action**: This requires institutions that can not only conduct scientific research, but can also act as 'boundary organisations' that can communicate across traditional boundaries between say, science and policy, or science and practice. Institutions in a rapidly changing world of interdependence need to be 'agile', so universities need to give more attention to linking knowledge and action in society.
- **Partnership-oriented institutions**: partnerships between the science and technology community (universities), the private sector and the broader community will be essential in promoting sustainable development. A key tension will be to address the trend to privatise science and technology research and remove it from the public sphere, as business and industry set up their own R&D divisions. Universities need to be able

negotiate partnerships with this R&D sector to ensure that science and technology research remains in the service of public sustainability goals, not only those dictated by the private sector.

- **Capacity building**: it is necessary to build capacity in inter-disciplinary research, understanding of complex systems, dealing with irreducible uncertainty, integrating across fields of knowledge, and harnessing and building capacity for specific dimensions of sustainable development research and teaching. Networks and exchange programmes will be crucial to enabling this kind of capacity building and learning.
- **Financial challenge:** With only a few but relatively small and under-funded exceptions, research efforts to 'sustain the lives of future generations on this planet' still lack dedicated, problem-driven and solution-oriented R&D systems with attendant funding mechanisms. Multi-lateral and regional development funds and banks have funded **development** projects, but have not invested in science and technology research. While these organisations now support sustainable development objectives, their funding structures and mechanisms are not adapted for funding research and capacity building in higher education systems. (adapted from International Council of Science, 2002:8-9)

Visit the African Association of Universities website on www.aau.org for more information on the AU's plans to revitalise Higher Education in Africa.

These are all important areas for capacity building for institutional change in African universities, if they are to take up the sustainable development challenge outlined in Modules 1 and 2. The African Union have identified a number of other challenges that need to be addressed in African universities as part of the process of revitalising higher education in Africa (AU, 2005). In its *Plan of Action* (2004-2007) as well as *Strategic Framework for Deadline 2015*, the revitalisation of the African university emerges as a major agenda of the African Union. The following issues have been identified by the AU under this agenda, and are crucial for addressing Africa's sustainable development challenges at a broad level:

- **Access and equity:** due to past financial constraints, equitable access could not be ensured in most African universities. It is necessary to enhance the opportunities for all and address gender parity by seeing the university as part of a broader system, raising the quality, and improving access to primary and secondary education.
- **Financing**: The need for cost-effectiveness and supplementary income to augment public subsidies has led to higher education institutions privatising tuition costs and devising cost-sharing, cost-cutting and revenue-generating schemes. Examples of

this include commercialising service units and university assets and introducing demand-driven courses. There is increased concern about the sustainability of these financial reforms, and weaknesses cited include decline in academic quality and equity. The 'commercialisation' of higher education is also said to be detracting from the primary function of universities as public centres of critical thinking and reflection, knowledge production and skills development and centres of innovation.

- **Improving quality and relevance:** this includes attending to systemic and structural aspects such as improvement of library services, teaching facilities and ICT infrastructure, as well as teaching, learning and curriculum issues (as discussed in Module 2). Inter-university partnerships and collaboration through regional centres of excellence and international and regional co-operation to enhance research and staff qualifications are also part of this dimension of institutional capacity development.
- **HIV and AIDS**: the HIV and AIDS pandemic is affecting higher education through the death of teachers, students and administrators, a reduction in the number of persons to be educated, an increase in workload of replacements, frequent teacher absenteeism, low teacher and student morale, a rise in university expenditure, a decline in quality of education and a fall in the number of graduating students. There is a need for a more integrated and strategic response in universities, stronger institutional leadership and ensuring multi-disciplinary and cross-sector collaboration in researching the issue and its impact.

See the toolkit for a more comprehensive report on HIV/AIDS in higher education in Africa.

- **ICT**: the rapid growth of the knowledge economy and the information sector has made ICT a critical dimension of access to high-quality tertiary education. Most universities' efforts to access and utilise ICT have been constrained by lack of capacity (infrastructural, human and financial) and an unfavourable policy environment. The high cost of bandwidth has been a significant problem in particular. Addressing this problem requires broader interventions from governments (e.g. addressing the problems of power supply, liberalisation of the telecom industry, etc.), as well as internal capacity development universities. (AU, 2005). Colle (2005) believes *eReadiness* in a university context to involve: ICT facilities and network access; personnel available to design ICT-based materials and pedagogical platforms; academic programmes that allow students to apply ICT to communication and development; university policies that encourage faculty participation in community outreach programmes; and a 'faculty

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ICT posture' that involves a positive disposition towards the use and efficacy of ICT in education, teaching and learning.

Institutional capacity development for ESD will need to take place within this broader context of capacity development. In this module we focus more specifically on ESD innovations, and building capacity for its implementation at a local level, in departments and in interaction with university structures.

Review your university's development planning

In your pre-course task you would have collected information on your university's development plans (most universities have three-year or five-year development plans of some sort).

Use the following questions to review your university development plan:

- In what way is your university addressing the areas of capacity development mentioned?
- Does your university have a strategic development plan?
- Can you review your university strategic development plan in relation to the factors outlined?
- Which areas is your university not addressing?
- Could the development planning of your university incorporate a stronger focus on ESD?
- If so, how could this be done?

Introducing sustainable development innovations

Starting new innovations in institutions is not usually as easy as expected. Often there are several procedures that need to be followed, and many 'barriers' that one may have to overcome. Sometimes these barriers are cultural (i.e. the university may have a fixed way of doing things, and may not see the validity of an innovation proposal); sometimes the barriers are structural (i.e. there may not be available facilities or resources to implement the innovation); and sometimes the barriers may be social (e.g. power relations may impede the creation of an open climate of enthusiasm and co-operation). Sometimes the barriers are also related to the professional and knowledge capacities

of agents working in the institution. Most often, introducing innovations will involve *addressing a range of interacting factors* that are cultural, structural, historical, professional and/or knowledge related.

Examine your own experience

Have you every tried to introduce an 'innovation' into your department or faculty? What happened?
What were the barriers and how did you overcome them?
What strategies did you use, and were they successful?

When thinking of introducing an innovation into an existing context, it helps to develop a 'clear picture' of the institutional context and to have a good knowledge of the history and culture of the institution – the 'ways of doing'. It is also often useful to examine the experience of others, as it gives us good ideas, and may inspire us to try something out that we may not have thought of.

The case study of Monterrey Tec presented here, provides some useful ideas for 'getting started' with ESD innovations in a university context. These involve *inter alia:* evaluation and review of prior experience, staff capacity building, identification and working with champions, expanding the 'champion's network', seeking relevance, and establishing partnerships, and integrating initiatives into university policy processes.

See the toolkit for other case examples describing ESD practice in universities.

Case Study: examine someone else's experience

Introducing sustainable development innovations at Monterrey Technical University in Mexico (case story by Lozano & Huisingh, 2006).

In our process of seeking to increase sustainable development within the curricula, we began by reflecting upon the lessons learned by our first efforts that occurred several years prior to the Sustainable Campus Programme. At that time, a mandatory course for all students in all careers was given. The title of this course was 'Ecology and Sustainable Development'. Of course, every campus has a students' feedback structure that is used to guide course changes. Feedback for this course revealed that it was too biased towards ecology. However, the educators in charge of the course did not take proper and prompt action to change the course accordingly, so enrolment diminished dramatically. This was a clear signal that it did not have the supposed general appeal to all students in all curricula.

Hence a different approach was taken. We invited educators who wanted to learn more about sustainable development to participate in a two-and-half-day course designed to provide material and experiences in introducing sustainable development

(SD) into their courses and curricula. Those who volunteered and who are now working to introduce sustainable development into their courses are called the 'Tec.SD champions'. They did not need to be convinced of the importance of sustainable development. They benefited from the opportunity to participate in lectures, debates, discussions and to work together with other colleagues to plan how they will further enhance the weaving of sustainable development as a 'golden thread' throughout their teaching efforts.

Thus, a two-pronged action was carried out:

- SD 'champions' were educated and empowered to move forward, and
- the top management of Tec officially supported their efforts and encouraged others to do so too (this is also reflected in the new mission, vision and strategy statements for the entire 33-campus network of Monterrey Tec.)

Making these actions compulsory or mandatory was deemed to be inappropriate because it might backfire and result in increased resistance to change courses and curricula.

A two-and-a-half day course on sustainable development was designed and offered to those educators who wanted to take the lead as sustainable development 'champions'. The two main goals of the course were:

- To establish a common ground for the faculty about SD concepts, by clarifying and expanding upon the three dimensions of sustainable development and by ensuring that all understood the crucial fourth dimension, in SD time.
- To provide educational materials and collegial support to the educators during and after the course to help them complete the course and workshop with specific actions they planned to implement their own courses.

A team of experts in various SD aspects have offered this course on SD four times in three years. Approximately 100 educators have taken the course and are progressing in weaving SD as a golden thread into their courses and curricula.

However providing the educators with education and capacity-building in sustainability was found to be insufficient. We realised we needed to assess how much SD was was actually integrated into their courses after they took the course-workshop. For this, we worked with the Campus Academic Development Division to design and utilise an assessment tool to work with the new SD 'champions' to track and assess their progress in infusing SD into their courses.

The Sustainable Campus Programme team also visited the different academic divisions to encourage additional faculty members in all divisions to incorporate SD into their curricula.

But, in early 2005, the new Mission and Vision for 2015 was announced. It is acting

as a promoter, because people now perceive that the issue is relevant for the whole institution and that they also need to become involved in teaching SD.

Monterrey Tec's future professionals are linked with enterprises in diverse economic sectors and some of them will soon be working in decision-making positions. Also, Monterrey Tec's board members on the various campuses come from successful regional enterprises. Being a private higher educational institution, it has been standard practice to assess the probable labour market for our graduates. We then modify and update the curricula by modifying and rendering the curricula up to date for existing and new careers according to the findings. There is also a strong social and community commitment in Monterrey Tec.

Based upon a partnership with the World Business Council on Sustainable Development (WBCSD) many SD efforts are increasingly resonating in a dynamic manner throughout the campus. An example is the strategic action that was taken in planning the use of the on-line *Chronos* course. This was developed between the WBCSD and the University of Cambridge, to bolster SD awareness and commitment among people in companies. Although the course was designed for those already working in business, a pilot study was done to ascertain its possible use on the campus. Among the various reasons to use *Chronos* are the fact that it has been designed to clarify individual and organisational attitudes towards SD. There are also important international businesses in the WBCSD for whom the journey towards sustainability is important.

To date, we have 83 educators who have incorporated SD concepts into their courses. Further, approximately 5 000 students have taken *Chronos* in various courses in several academic divisions.

Discussion questions

- What limitations and opportunities did Monterrey Tec face in the process of implementing its ESD innovations?
- What strategies did they employ to 'get started' with their ESD innovation?
- What did they do to strengthen the ESD innovation once it was 'going'?
- Comment on the appropriateness of the strategies employed by Monterrey Tec. Would they work in your university context? Who would the 'champions' be, and how would you identify them?
- How did the project involve students and how best do you think this should be done in your work context?
- What lessons can you draw from this initiative to start or enhance a sustainable development in your institution?
- How was the initiative to strengthen institutional capacity motivated by history and philosophy? What would or would not work in your context?
- What other interesting aspects of the case study could inform your ESD practice?

Organisational change and management support

It is generally recognised that good leadership and management are beneficial to change initiatives that need to take place at organisational level. This is especially so when the leaders (in the case of a university this would be Heads of Departments, Deans, Vice Chancellors and/or Deputy Vice Chancellors, Campus Managers, etc.) are visionary and proactive. Mainstreaming environment and sustainability concerns into universities in Africa will need proactively to involve university leaders in creating enabling management and administration mechanisms for ESD innovations in most institutions.

See the toolkit for more information on organisational change and change in universities.

Universities are generally relatively conservative institutions and take a long time to change. There is also often a 'taken-for-granted' assumption that change in universities should come 'from the top'. In the context of ESD, we could, however, ask whether this is the only approach to conceptualising change in universities. Should change always be 'top-down', and, indeed, **is** change always 'top-down'?. We only have to examine the role of students in the anti-apartheid struggle in South Africa to realise that change from the 'bottom-up' can also take place. But how does change take place in organisations?

Carpenter and Meehan (2002) explain a model of organisational change which documents 'normal' change processes in university structures. They explain that:

> … initially, when pressures for change arise – as a result of new commercial realities, community expectations or legislation – the change is externalised and largely ignored. In the next stage, some changes occur, but only in sub-systems. Finally changes become deeply embedded, either as a result of regulative or other outside pressures, or where the organisation becomes a market leader and takes a pro-active approach (p. 41).

Reflection point

Reflect on the model of organisational change put forward by Carpenter and Meehan (2002) by considering the Monterrey Tec case study again. Can you identify these three 'stages' in the Monterrey case?

Have you observed similar processes in your own institution? At what stage is your university in terms of its adoption of sustainable development priorities?

Does organisational change always follow this model?

What other organisational change theories might one draw on to understand how change takes place in universities?

For example, this statement adopts a very different view of organisational change to the one outlined:

> "Our management traditions perpetuate … ineffective change strategies through mechanistic models of scientific management portraying organisations as rigid, hierarchical machines operating through a combination of command and control. As an alternative, we need to see our organisations as dynamic living organisations that can nurture more decentralised change by embracing comprehensive definitions of sustainability. Whole Systems Design (WSD) is a collaborative design-based approach to organisational change intended to enhance our collective response to complex problems such as those posed by issues of sustainability. WSD begins with individuals identifying together a 'seed' of a shared vision and organisational ideology. This seed is cultivated through strategic collaboration of a diversity of stakeholders in the design of organisational structures and managerial patterns aligned with shared values." (Pittman, 2004:203)

Thomas (2004: 41) argues that "… in a traditional analyses of organisational change we would expect the direction of change to come from the top, meaning management and/or academics". Emerson and Welford (1997) note that there is usually an acceptance that change for improved environmental management is top-down. In tertiary institutions, there is, however, a danger that top-down approaches will be met with inertia. Nonetheless, support, if not guidance is an important factor in ESD innovations.

Support from management, can, however, be complemented and strengthened by a 'bottom-up' movement that is motivated to implement ESD. This could be students who could advocate environmental change and sustainable development interests. It could also be lower and middle level academic staff who, working in networks, could promote change at faculty level, and across faculties in multi-disciplinary teams (Thomas, 2004). Meima (1997) comments that commitment from key individuals ('champions') and 'charisma' can be very important in initiating and sustaining change. Rice (2000) describes what he calls 'strategic termites' who bring about change through strategic actions within the organisation (Thomas, 2004). For these people to be effective, however, there will need to be a broad-

based understanding of sustainability issues and their significance in society, if the innovations are not to simply fall on 'deaf ears'. University managers play a crucial role in broadening understanding of key issues (e.g. sustainable development, HIV/AIDS, etc.) through their interactions with staff and students across the institution.

There is a need to broaden the interest in sustainable development across other staff units. For example, interest in the planning functions across faculties and departments, and between academic and non-academic divisions (see Sustainable Campus Management). It has been found that early adaptors (in the university sense) are those universities with decentralised and responsive administrative functions such as financial, academic and staffing (Thomas, 2004).

Support from top leadership is important, not least because it takes senior management and visionary, inspirational leaders to help change institutional cultures. These are often the main stumbling blocks in institutional change (e.g. a culture of apathy, an institution-wide lack of accountability, a tall-poppy syndrome where junior staff who dare to innovate are ostracised, or where the motivation of more junior individuals who take the lead, is questioned as perhaps a case of self-interest. The latter is less likely if an initiative is seen to be driven from the top).

While many therefore believe that institutional change should be driven from the top, this is not always the case. How does one get support from the university leadership, if the innovation starts from the bottom or at middle-management level?

Different strategies will work in different contexts. In general, however, it is important to identify persons in key positions in the university, who are likely to provide leadership, both because they are dynamic and outward looking, and because of the relevance of their position. Key positions of particular importance would vary from university to university, and over time.

Some practical ideas

At the University of the Western Cape in Cape Town, South Africa, staff identified the Rector of the university, and a person appointed to a new position in Public Relations, as particularly influential.

One strategy is then to target these key individuals/positions through personal meetings (although these are not always easy to arrange, and one needs to be persistent). Also provide information briefs in the form of one- to two-page documents outlining (for example):

- the background to your proposed initiative,
- its relevance to the university,
- the benefits to the university, should this initiative be supported, and
- the publicity opportunities (e.g. a launch with press coverage).

These should also be presented in person, with as much enthusiasm as possible!

In general, building and maintaining personal relationships with university leaders is very beneficial. To this end, we need to look for connections between a sustainability initiative, and the interests and concerns of such leaders. For example, one rector was concerned about the public image of the university which was being harmed by litter at the entrance and on campus. Attempts are currently being made to link environmental awareness raising around the issue of litter on campus, to better waste management (including recycling) and the integration of environment and sustainability in the teaching and research programme at this institution.

Another rector was particularly concerned about the university's role in community development, as the campus was surrounded by low-income working class communities, but also because of a general government emphasis on social development. Staff highlighted the community development dimension of environmental education when they motivated for top management support for their efforts to establish an environmental education programme. Interestingly, this educational programme was originated not in the Education faculty, but in the Science faculty, where it has been traditionally more difficult to initiate community development and outreach services.

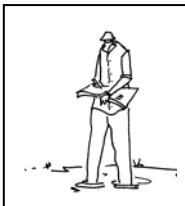
Questions for reflection and planning

What strategies would be the most effective in your context?
How would you go about getting management support for ESD innovations in your university context?

Understanding the culture of the institution

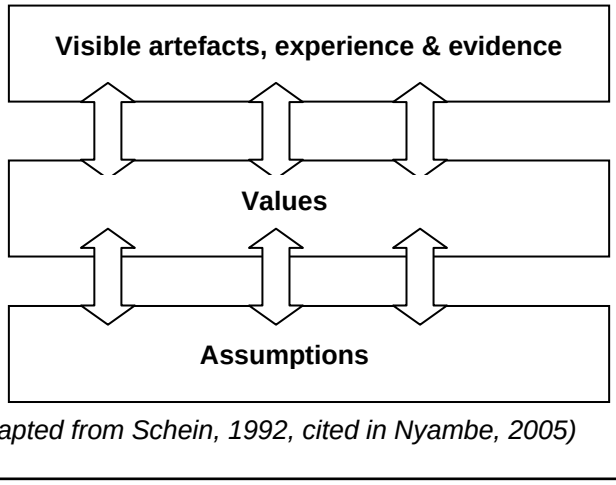
As mentioned, visionary leadership and active participation of a range of actors is a key ingredient in changing organisational culture. However, for these actors to have a 'real impact' it may be useful to develop a deeper insight into organisational culture. As Schein (1992:196) puts it "Culture is to the organisation what character is to the individual". Schein (ibid: 12, our emphasis) defines culture as:

> [a] *pattern of basic assumptions* – invented, discovered, or developed by a given group as it learns to cope with its



problems of external adaptation and internal integration – that has worked well enough to be of considered valuable and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.

Nyambe (2005) explains that, when conceived in this way, **culture** represents *an amalgamation of learning experiences shared by members of an organisation*. Nyambe also warns that when we consider culture, or changes in organisational culture, it does not help if we only consider culture at a superficial level (i.e. by identifying the 'features' of the culture, for example, the traditional ways of planning teaching programmes, or the way in which research funding is allocated). He suggests, drawing on Schein's (1992) analysis of culture, that we need to seek insights into the *hidden assumptions* that influence and 'lie behind' the visible or more obvious aspects of an organisation's culture. For example, instead of simply explaining the way in which the teaching programme is planned, it would be more useful to ask: *Why is it that the teaching programme is planned in this particular way? What are the **assumptions** that are informing the way the teaching programme is planned?* Schein (1992) argues that these 'hidden assumptions' are often difficult to examine, because they are often unconscious or habitual (we do them simply because that is how they have always been done), and that they are closely associated with values, as shown in this diagram.



(Adapted from Schein, 1992, cited in Nyambe, 2005)

Using this diagram, identify visible artefacts, experience evidence of your university' What values are associated these events, artefacts and experiences? What underly assumptions are shaping th experiences? What values assumptions will need to ch ESD to be a 'success' in yo university? How should this done?

Nyambe (2005) argues that approaching our understanding of organisational culture in this way, will allow us to gain *a deeper understanding* of what we need to do to achieve successful implementation of our innovations, and will allow for deeper reflection on our actions. He suggests that engaging in *dialogue with others in the organisation*, can facilitate this kind of reflection. This kind of

reflection in an organisation is crucial for introducing new innovations, as 'hidden assumptions' are often related to the organisation's strategic processes and imperatives (policies and procedures), which are, in turn, an implicit influencing factor in strategic decisions and activities (e.g. how funding gets allocated or how staff get promoted or what gets taught and why).

Reflection activity

(Work with the diagram, when doing this activity)

Schein (1992) states that it is more helpful to begin by studying the hidden than to study the apparent (Nyambe, 2005:58).

In the context of your university, could you identify any hidden assumptions that are influencing your university's strategies, policies, decisions and actions.

For example, you may ask one or more of these questions:

- What are the hidden assumptions that are influencing the curriculum policy and curriculum development procedures in your university?
- What are the hidden assumptions that are influencing the way that research funding is allocated?
- What are the hidden assumptions that influence teaching practices in your university?

What other questions could you frame?

According to Nyambe (2005: 68, our emphasis) "**Learning** is at the centre of culture because it serves as the conduit through which assumptions are developed and exchanged by means of group interaction and experiences before becoming ingrained". Schein argues that learning is important for *internal integration* and *external adaptation* as the organisation experiences and responds to changing pressures from its stakeholders and environment. Any organisation constantly has to learn new ways of doing things. As stated by Nyambe (2005: 69):

> "This is not easy as it essentially entails discarding ingrained habits, assumptions, beliefs and the resultant worldviews they create, something which does not happen automatically. It demands a carefully-designed set of activities and processes to facilitate the empowerment of people within the organisation, and therefore the role of leadership is invaluable".

Learning processes are crucial in changing the culture in an organisation. Besides learning, *shared experiences* of using new ways of thinking, perceiving or valuing can create new approaches to doing things, and this *takes time.* Learning can also simply involve 'unlearning', a process which also *takes time* (Nyambe, 2005).

Do you agree?

Scott & Gough (2004) argue that there is a need for "… integrated and integrative leadership within higher education, and between this and other sectors … to encourage innovation and a culture of open sharing… such leadership may well include the following amongst its priorities:

- commissioning research, particularly into [i] the mainstreaming of sustainable development into learning and [ii] the actual and potential relationship between sustainable development and [life-long] learning;
- better use of existing research; long-term cross-sector strategic planning; development through education for transferable skills and flexibility;
- cross-sector monitoring and evaluation of initiatives and learning in sustainable development;
- networking of practitioners in order to examine effective practice critically; and
- promotion of, and leadership contributions to, international developments.

Such leadership and innovation might also bear in mind:

> There are dangers in being over-prescriptive about what counts either as sustainable development, or as learning that contributes to it. As nobody really knows what sustainable development will turn out to entail, there is considerable merit in encouraging institutions, groups and individuals to explore what they are interested in, and then to come together and analyse what emerges. Maintaining such collaborative processes, and keeping in touch, are crucial if professional and institutional development is to be optimised". (Scott & Gough, 2004: 244)

Discuss this approach in the context of your organisation.

See the toolk more informa leadership in education.

Strategy, policy and organisational structures

As mentioned, the university strategy and mission is influenced by, and constituted by, a number of assumptions that underpin the organisational culture of all universities more broadly and specific universities individually. The fact that most universities include research and teaching in their vision and mission statements is because a deep-seated assumption exists in society about 'what universities do' (i.e. knowledge generation and sharing of knowledge). In recent years, community service has come more strongly into focus in various university visions and missions. This is because a new assumption has developed about what universities should do (i.e. serve the broader community with their research and teaching). Today, we often hear the phrase "the triple mission of universities: teaching, research and community outreach/service".

As Schein (1992: 56) puts it:

> One of the most central elements of any culture [in this case the culture of the university] will be the assumptions the members of the organisation [and associated stakeholders] share about their identity and ultimate mission or functions. These assumptions are not necessarily conscious but one can bring them to the surface by probing the organisation's strategic decisions.

Examine your university mission statement

Examine your university mission statement:

- What assumptions do the members of the university share about their identity and ultimate mission or functions (as expressed in the mission statement)?
- Is there evidence in your university that the mission statement has influenced any strategic decisions?
- In what way could the mission statement be revised to incorporate sustainable development concerns? How would this influence strategic decisions in the university?
- How often does your university mission statement get reviewed?

Let's pretend

Imagine you are a Vice-Chancellor of a newly-established university in Africa. You have been asked to establish a vision and mission for the university. What would you do? How would you go about this task? Who would you involve? What key assumptions would inform the vision and mission? Would you build sustainable development concerns into this vision or mission?

Try to write a 'first draft' of such a mission statement which you will take to all stakeholders for review.

Besides their mission statements, most universities have rather extensive structures and policies in place to ensure quality and preserve the institution's integrity. While they serve an important function, they can slow down innovations, particularly those with fundamental or far-reaching implications. For example, if you want to start a new inter-disciplinary department or programme (e.g. a Department of Sustainability Science), or even make a significant curriculum change, it can take two years or more to have such a change approved by university structures. A change in a particular degree offered by a university would have to be approved first by the Faculty Board, then the Academic Planning committees and sub-committees, and eventually the Senate. These bodies do not meet very frequently, which explains the delayed process. All along the way, appropriate motivations need to be provided, and the more you know about the processes and concerns involved at the different structural levels, the more likely you are to be successful.

There are also complex power dynamics at play in the making of policy and in changing curriculum, as expressed by this lecturer in a university in Southern Africa:

> "One negative implication of interdisciplinarity is the difficulty involved in developing such programmes owing to the numerous stakeholders to be consulted … It may also be argued that people who champion academic ethnocentrism and who may be chairing various approval sessions of the programme development process could use this negative factor of interdisciplinarity to deliberately frustrate progress of programme development ... Academic ethnocentrism is the belief held by one section of an academic establishment that they are better at certain tasks [e.g. curriculum design] than their fellow colleagues working within the same institution …" (Namafe, 2005)

See the CDN for examples such issues reported by practitioners.

There are mixed feelings about the value of establishing university policies on environment and sustainability. Some point out that while 'environment' or 'sustainable development' is mentioned in the vision and mission of their institution, this is not having a significant effect on the ground in terms of actual programmes. In other cases (for example, Rhodes University in South Africa), it has taken time to develop university environmental policies. However, these policies have led to the establishment of inter-departmental committees, a university environmental programmes committee (which is a sub-committee of senate) and other structures which provide mechanisms through which to address university-wide environmental and sustainability initiatives. In establishing effective policies or other structural changes, the role of motivated individuals as drivers of

See the toolk examples of environment sustainability and for discus the developm implementati these policies

change cannot be overstated. The influence of power relations and other historical, structural and cultural factors should also not be under-estimated.

Case Study: Policy at the University of Botswana (UB)

This University has set up various policies that encourage sustainable development in campus activities. These cover operations that include teaching and research quality and ways that safe guard the actual environment in the university. The Environmental policy covers various institutional operations such as purchasing, transport, food and beverages, energy and water consumption, land use and buildings, health and safety, environmental education and awareness. The draft waste management policy on the other hand, covers issues related to the management (handling, storage, collection and pre-treatment) of hazardous and non-hazardous waste; sorting, re-use, recycling and recovery of waste; safety; waste education and public awareness. The procurement policy states preference for companies that show concern for the environment in the types of products they sell. It also encourages privatisation of functions that are not the core business of a university. In terms of the Sustainable Campus Policy Bank developed after Agenda 21 and the WSSD, UB seems to be making a positive effort to meet these challenges.

The UB Sustainable Campus Policy Bank:

AREA	POLICY
Environmental	Environmental policy
Energy management	Environmental policy
Hazardous waste management	Waste management policy
Curriculum	Academic quality management
Procurement/Purchasing	Procurement policy & environmental policy
Research excellence	Research policy
HIV/AIDS	HIV/AIDS policy
Gender	Sexual harassment policy

All these policies contribute towards sustainable development

Does your university have such a 'sustainable development policy bank' – could one be developed?

Financing and resourcing innovations

Most African universities depend on state funding. Universities have had their funding reduced because of reduction in spending on education and other social sectors as a result of structural adjustment programmes (often instigated by the World Bank and the IMF) and other economical fiscal measures. In many cases, university finances are a reflection of the national budgetary crisis in government. Universities in Africa have generally become 'casualties' of economic reforms. Whenever governments effect mandatory cuts in national budgets, universities have not been spared. In some cases, donor and international agencies have stepped in to help. However, in such cases the pace and process of policy formulation has often been guided by the donor agencies.

As a response to reduced funding in higher education, many universities have had to request special considerations from government. They, for example, ask for exemptions from the budgetary cuts and more funding. More proactive universities have had to undergo reform towards economical sustainability. Often this has led to putting more pressure on citizens who have to pay high education fees. This has been a significant change where universities (through government funds) previously met the cost of student board and lodging, books, travel and other costs. Attempts by university management to effect cost-sharing measures have often resulted in a spate of strikes and demonstrations by students, which has disrupted university programmes.

In order to meet the cost of running university programmes, some universities have resorted to establishing business ventures such as farms and hiring out institutional infrastructures for private use. Profits realised from such ventures have helped to enhance the capacity of the universities to provide education, research and other services.

Funding for ESD programmes and initiatives is likely to be a tricky issue in the context of the under-funded university, so when planning your innovations, try to situate them as much as possible within the available political economy (i.e. do not rely on raising outside donor funding, but rather do something that is 'part of' your ordinary work so that it does not cost a lot extra).

Multiple sources of funding for a successful programme

The University of the Western Cape has a small nature reserve on campus, with an indigenous plant nursery and educational centre. From here in-house and outreach programmes are run for local schools and other groups. The management of the reserve is funded by the Science Faculty, whose students use the reserve for

fieldwork and practicals. The environmental education programme is paid for by funds raised from local businesses. The nursery has not been able to bring in a substantial income, perhaps because the horticulturalist's position is not funded well enough to attract staff with a strong business orientation. Another funding possibility being considered is a partnership with the Cape Town metropolitan municipality, which has an extensive environmental management department and function, and access to funding. One possibility would be to offer short courses on campus or at the reserve, for municipal staff with environmental management tasks, in exchange for financial and in-kind support for the university's outreach programme.

How will you do it?

How would you go about funding your ESD innovations?
How could you align your work with the existing budget framework of the university?
Could you be creative and extend the funding possibilities?
Will this be necessary?

Networking, partnerships and collaborations

Forming and working with network and partnership structures is often a significant way of gaining support for innovations. AtKisson (1999) indicates that significant change is seldom the work or result of only one person's efforts, "… rather it comes from co-operation, as in an 'amoeba of culture". AtKisson (1999) explains that the connections and stages within this co-operative networked process include:

- 'innovators' often provide ideas, but may not be good at explaining or communicating them;
- 'change agents' adopt the innovators' ideas, and then promote them, translating them into explanations that others can understand;
- 'change agents' promote the ideas to significant others (leaders) who are likely to pick them up and transform them and make them more accessible to 'mainstreamers'; and
- 'mainstreamers' then pick up the ideas and adopt them.

Networks are comprised of various combinations of innovators, change agents, leaders, transformers, and mainstreamers (sometimes the same person plays two or more roles). Networks are fluid and can

change, but are always dynamic, and the social interactions that occur always have the potential for enabling innovations.

A case study of a university network

Environmental learning and research have been taking place at Rhodes University in South Africa for many years, in separate faculties. Early signs of networking around environmental concerns were visible in the University, as some staff worked with others on collaborative research programmes, and others were invited to lecture on programmes in different faculties. In 1991, after signing the Taillores Declaration, the Vice-Chancellor requested the Environmental Education unit to host a participatory policy-making process in the University and its community, to develop an environmental policy for the university. This led to the first 'formal' university-wide networking of environmental and sustainability concerns. In 1997 the University established an Environmental Science programme in the Faculty of Science. This programme was set up to undertake multi-disciplinary teaching and it ran courses across the science and humanities faculties.

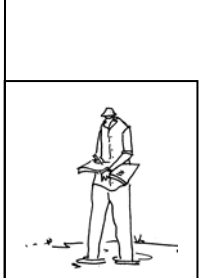
After a while more staff became involved in environmental and sustainability concerns, and a staff forum, called RUFE (Rhodes University Forum for the Environment) was established. Staff agreed to produce a marketing booklet, showing the diverse range of environmental courses that were running in about 10 different university departments at both undergraduate and postgraduate levels. They also produced a directory of the environmental research being undertaken at the University, in order to market the environmental learning and research focus. This raised the profile of environmental learning and research within the University, and RUFE was then changed into an 'Environmental Programmes Committee', chaired by the Deputy Vice-Chancellor, and it oversaw both curriculum issues and campus management issues. This committee is soon to become a formal senate committee. Staff 'on the ground' still network with each other in smaller groups, and undertake co-operative research and teaching initiatives, but now with broader institutional support provided by these structures.

Discussion question

In your view, does this example represent top-down, or bottom-up change, or both?
What networks exist on your campus to address sustainable development initiatives?
What activities could be undertaken to strengthen these networks?

Professional associations and networks also form an important networking forum for strengthening and building ESD capacity. In southern Africa, for example, the Environmental Education Association of Southern Africa (EEASA) runs annual conferences and workshops where ESD issues are discussed. It also publishes an accredited journal, providing publishing opportunities for ESD practitioners in the sub-region. In East Africa, the East African Environmental Education Network plays the same role. In the Nile River Basin, a range of

See the toolk more informa networking a partnerships.



different EE networks has been established, for example for environmental journalists, an EE Lecturers' network and the NileNET.

Case Study:
Formation of Nile Basin EE Lecturers' Network and the NileNET

The Nile Basin EE Lecturers' Network was formed in May 2005. To date, the network members are facilitating Master's students to develop project proposals on how to address Nile Basin environmental threats through awareness creation. The main objectives of the Nile Basin EE Lecturers' Network include:

- to exchange information on delivery of environmental education courses at tertiary institutions of learning;
- to participate in development of EE course frameworks and teaching materials for the Nile Basin;
- to build capacity for network members; and
- to implement EE&A trans-boundary environmental activities.

The network is a subset of the NileNET whose objectives include:
(i) capacity building and training on integrated water resources management,
(ii) co-ordination of research,
(iii) promotion of cooperation and networking, and
(iv) promotion of information and knowledge-sharing.

The formation of networks such as this has created opportunities for ESD scholarship and reflection to be strengthened across Africa. This is particularly since the different sub-regional networks are now beginning to interact and network more closely with each other to share expertise, experience and resources. At a country level, several such associations/networks/forums exist, for example in Botswana, there is the BEEN (Botswana Environmental Education Network), in Namibia the NEEN (Namibian Environmental Education Network), and Zimbabwe and South Africa both have an ELF (Environmental Learning Forum).

toolkit for case f university- ity network hip activities.

Community networks and partnerships are also critical to the success of ESD initiatives. The Rhodes University Environmental Education and Sustainability Unit in South Africa, for example, participates in the Makana Environmental Forum (the community environmental forum), in the Health Promoting Schools initiative (a Department of Health project to strengthen ESD in schools) and the Eco-Schools initiative (involving NGOs and the Department of Education). The Unit also contributes to local radio broadcasts and to a regular news column in the community newspaper (thus contributing through community networking structures). At the University of KwaZulu-Natal, South Africa, the university has an active '**local actor network'**. Jeppesen et al. (2004), describing this network, indicate that such a network is an important 'new institution' in a democratising

society. They indicate that new institutional forms (such as these local actor networks) are important for environmental management and sustainable development. They should ideally involve interactions between sub-networks in the larger network, particularly a knowledge network (the university, NGOs and other development organisations), a business network (customers, consumers and suppliers) and a regulation network (local government, donors, environmental protection agencies). Various actors in these sub-networks are likely to have different interests and skills and to co-operate and collaborate in different ways as the new institutional formation becomes established. Such networks are always likely to be fluid and dynamic.

Inter-university networks provide forums for universities to work together. These networks can be research-based networks, management networks, teaching networks, campus management networks (or all of these). These networks can have a local and specific focus, or can have a broader mandate for the reorientation of higher education. For example, the MESA Universities Partnership has established a network with such a mandate. Another example of an inter-university partnership project was a network established between Danish, Southern African, Latin American and Asia Pacific universities to implement sustainable development programmes and objectives. Through broader networking with universities before the World Summit on Sustainable Development, this network was able to produce a 'Declaration' to guide the collective practice of universities in implementing ESD (see the Kasane Declaration). It can also provide guidance to the MESA Universities Partnership, given its roots in an African context.

KASANE DECLARATION
WSSD: Universities in International Partnerships for Sustainable Development

Experiences gained from international university consortia suggest that partnering can make significant and meaningful contributions to sustainable development.

Partners in sustainable development

Scientific, technological, and democratic development requires co-operation between government, civil society and industry. Universities are indispensable partners as providers of higher education and research in sustainable development, which is essential for poverty reduction through capacity-building and good governance.

Universities as catalysts for change

Given current global human and environmental concerns, universities have significant potential to effect changes in sustainable development processes.

Attributes of universities include:

- research which promotes critical and innovative thinking and development of best practices;
- application of a variety of pedagogic approaches such as problem-oriented and project-based learning, and utilisation of information; and
- access to inter-disciplinary and inter-cultural human resources meaning that universities are able to forge agreements and implement projects across borders and cultures and thereby open development routes not otherwise accessible.

Reorientation of higher education

In order to maximise their role as important agents in sustainable development, universities should:

- develop human resources capable of integrating social and economic equity, environment and development through democratic and participative processes;
- develop life-long learning skills based on problem and project-oriented approaches;
- ensure gender equity in their programmes and activities;
- promote the use of information and communication technology in the generation, acquisition and dissemination of knowledge;
- ensure that indigenous and contemporary knowledge systems are brought into the learning and research processes;
- facilitate exchange of views and experiences that will pave the way for educational reforms;
- facilitate equitable socio-economic development through close collaboration with civil society as well as the public and private sector in order to support economic, environmental, and technological development; and
- be receptive to interacting with other role players in formulating strategies for training and research in sustainable development;
- serve as a role model in sustainable resources management.

In order to succeed in this endeavour, universities will benefit from systematic and coherent co-operation as well as networking for achieving lasting relevance.

Experience gained from the Linked University Consortia for Environment and Development-Industrial and Urban Areas (LUCED-I&UA) model suggests such partnerships can make significant and meaningful contributions towards achieving envisaged goals.

How can you use the Kasane Declaration in your university context?

Identify networks

Which networks are you currently participating in? Reflect on your experience. What makes a successful network?

Can you identify any new/potential intra-institutional, inter-institutional, professional and community-based networks that you can link up with or participate in?

Academic and professional incentives for innovative practice in universities

Thomas (2004) explains that barriers to implementing ESD in higher education are closely linked to staff knowledge of environment and sustainable development issues, lack of knowledge about where to obtain relevant information, not being rewarded for multi-disciplinary teaching or for innovation (amongst others). Paying attention to issues of staff development, rewards and professional support is an important dimension of implementing ESD initiatives in universities.

Some strategies for doing this would include:

- Increase research funding for ESD related topics and processes
- Provide internal recognition for those 'champions' that excel at their ESD initiatives
- Establish internal funding systems that reward/share the rewards for multi-disciplinary teaching
- Recognise ESD contributions in promotion protocols and procedures.
- Integrate ESD programmes into the regular staff development calendar or staff development unit's programmes.

The MESA Universities Partnership Award

UNEP, in partnership with UNESCO, the African Association of Universities and the Global Higher Education for Sustainability Partnerships (GHESP) is offering an annual award for ESD innovations in universities in Africa. Through providing evidence of their ESD innovations universities can participate in this programme. See the UNEP website on www.unep.org for more information. Student awards will also be allocated annually.

Working with student groups and organisations

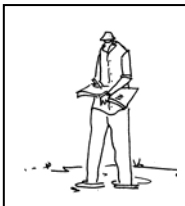
"Student environmental sustainability initiatives are an important component of institutional environmental change in higher education" (Wright, 2003: 208). Students can often have a significant influence in the development of sustainability awareness on a university campus. Kahler, a student (2003), describes how the development of an energy-efficient programme in a university residence influenced others (including the purchasing department and the university president) to make positive environmental choices on her campus. In another case, 12 student organisations collaborated to raise awareness of sustainability issues through the development of a year-long, nine-event series of speakers and panels, each related to a chapter of *Agenda 21.* They called this seminar series 'Passport to Earth Summit 2002', as it was hosted prior to the WSSD (Bhasin et al. 2003). In another case, a student critically evaluated the 'sustainability speak' at his university, and found that media attention given to sustainability at his university exaggerated the university's contributions to sustainability. It ignored the fact that sustainability efforts were scattered and did not deeply permeate the culture, leadership, policies and practices of the institution (Shriberg, 2003).

In another case, the Ecological Society (EcoSoc) in a university established a recycling project in the university residences (Nhamo, 2005). This society collaborated with the Green Awareness in Action (GAIA) association to conduct public awareness campaigns associated with the recycling initiative. This student initiative led to an expansion of recycling at Rhodes University in South Africa, where today, there are over 100 recycling points on the campus, and the University management have taken over the responsibility of ensuring that recycling is an 'everyday activity' across campus (Nhamo, 2005). The success of this initiative was attributed to the establishment of strategic partnerships between the student organisations, and the way in which they involved all the stakeholders (wardens, staff, student groups, university administration and others).

The MESA Student Awards Programme

The MESA University Partnership will also be offering awards for sustainability innovations designed and implemented by student groups.

What can you do to strengthen student actions for sustainability on your campus?



While student projects can be very successful, there is often very little connection between the student initiatives (e.g. environmental health clubs) and faculty initiatives (e.g. teaching and research). The only link is that student activities are often motivated by what is being taught. However, there is no reciprocal feedback from student action to curriculum and research.

Stronger staff involvement in student initiatives and organisations may help to overcome one of the fundamental shortcomings of student initiatives: that they last only as long as motivated student leaders are on campus. For example, the student environmental club at the University of the Western Cape in South Africa disbanded once a certain student group graduated.

We should consider working with those student bodies that are likely to remain active regardless of student movement. At the University of Cape Town in South Africa a permanent student service volunteering organisation (SHAWCO) is in place. Among its activities is an environmental education programme for township schools. Similar structures exist at many other universities such as the University of Botswana. Here, too, the lack of continuity in the student body means that certain key aspects of activities (e.g. relationships with individual schools, and knowledge about the school curriculum) is transient, to the detriment of the quality and the longer term sustainability of the initiatives.

Sustainable campus management

> "The university campus is a place to study, but is also an excellent venue to model sustainable practices" (Kahler, 2003).

The Kasane Declaration (outlined previously) together with most other frameworks provided for higher education (including UNESCO's orientation), all emphasise that universities should operate as 'role models' for sustainable development practice. This has led to numerous innovations in campus management practices around the world. Here we share a few case studies to show some examples of innovations in sustainable campus management:

Energy auditing: At Tulane University in the USA a group of students audited energy use, and found that students in residence (in one dormitory room) used about 1100 kWh in one year, which amounts to about $120 and 1063 lb of equivalent carbon dioxide. The students applied to the Energy Corporation for funding to implement a 'model' energy-efficient dormitory room. Through donations, they refurbished the room using only energy-efficient equipment and systems. They produced publicity materials and educational materials, and did comparative studies, comparing the 'energy-efficient' dormitory room with others. Through this experiment, they found that the university could save over $150,000 if all students were housed in energy-efficient dormitories. The team influenced university decision-makers to consider more energy-efficient measures on campus. The process was both a 'living' and 'learning' experience for the students and staff at the university (Kahler, 2003).

Paper recycling for development: Universities use and produce inordinate amounts of paper. Setting up 'sorting at source' systems for paper and other recyclables has been found to be a 'good solution' to the paper problem at Rhodes University in South Africa. This initiative was established by two environmental student groups. They worked with the university administration to set up a recycling system in the residences. Auditing paper use can be an interesting learning activity for students as well. At Rhodes, the paper recycling initiative almost failed due to a drop in prices paid for recycled paper. A lecturer and some students started a 'paper brick-making' project to produce recycled paper bricks which could be used as a source of fuel in open fires. The intention with this project is to help address the fuel wood shortage experienced by the local community due to deforestation surrounding densely populated areas. Paper used on only one side is collected and given to community-based pre-primary schools which would otherwise have to buy paper.

Greening and water-saving: Various activities can be undertaken to save water on campus. A small example that has been tried out at Rhodes University is to put 'low-flow' shower heads in the residences as this reduces the amount of water used by students during showers (although it has been found that male students tend to simply take off the low-flow shower head and continue with their long showers. This was found in three South African universities! Gyan, 2006). The Grounds and Gardens department changed the way it 'looks after' the campus, and for the past 10 years, has only been planted indigenous plants in the university grounds as these use less water.

Environmental management systems: Some universities have adopted commonly-used environmental management system

standards to guide the implementation of their environmental management programmes. Examples of these systems include the ISO 14001 system standard, or the EMAS (mostly used in Europe). ISO (International Standards Organisation) has produced an environmental management system standard that allows for reflexive development and change. It encourages organisations to 'start where they are' and strive for continual improvement.

Ecological Footprint Analysis (EFA): Some universities have undertaken ecological footprint analyses. An EFA is an:

> … area-based indicator of sustainability that quantifies the intensity of human resource use and waste discharge activity in a specified area in relation to the area's capacity to provide for that activity (Wackernagel & Yount, 1998: 512).

Universities that have used this strategy to establish their 'sustainabilty' have invariably found that they have an ecological footprint far larger than their geographical footprint, given that universities are 'net importers' of consumption items. Footprint analysis demonstrates the location and extent of the impacts of consumption. More importantly, it "… relates consumption patterns in the university to specific biophysical impacts, reinforcing the basic assumption that sustainability in the university will equate to a reduced ecological footprint" (Flint, 2001: 58). The individual components of the ecological footprint methodology provide useful frameworks to guide sustainability management. Through this methodology, it is possible to determine where the greatest impact is occurring. Studies show that for universities, this tends to be energy use and land appropriation. The EFA also allows for a ranking consumption based on contribution to the ecological footprint.

Designing new audit and assessment systems: A number of new audit and assessment tools have been developed to help universities to implement sustainable campus management. Some of these tools are 'narrowly focused' on specific issues like energy or water auditing, while others are broader, and encompass auditing of the 'sustainability system' within universities as a whole. An example here is the Auditing Instrument for Sustainability in Higher Education Institutions (AISHE) tool, for the development of policy for integrating sustainability into university systems.

See the toolkit for more examples of audit and assessment tools.

Examine the AISHE tool for auditing sustainability (Roorda, 2004)

This flexible tool has been developed for auditing sustainability on campus. It is used with small groups of people (about 15), who are representative of faculties, departments or other units in the university.

You can download detailed information on the AISHE model in English from the following website: www.dho.no/aishe

Each group uses a list of five criteria, and a process description of five stages to assess their progress in implementing sustainability on campus. The 5 criteria are:

Plan	1. Vision and policy 1.1 Vision 1.2 Policy 1.3 Communication 1.4 Internal environment	2. Expertise 2.1 Network 2.2 Expert group 2.3 Staff development plans 2.4 External consultants
Do	3. Educational goals and methodology 3.1 Post-study profiles of students 3.2 Teaching methods 3.3 Role of the lecturer 3.4 Assessment	4. Education content 4.1 curriculum 4.2 interdisciplinary problem solving 4.3 staged offerings with gradual completion of courses 4.4 specialisms offered
Check	5. Result assessment 5.1 co-operative 5.2 student involvement 5.3 disipinary 5.4 social relevance	(*NOTE: Each criterion has a more detailed outline and description.)*

The 5 stages are:

Stage 1: Activity-oriented (ad hoc, activity-based, subject-based educational goals, individually set goals)

Stage 2: Process-oriented (educational goals related to educational process as a whole, decisions made by groups of professionals)

Stage 3: System-oriented (goals are student-oriented, not teacher-oriented, organisational policy with long-term goals, ongoing monitoring, evaluation and feedback processes

Stage 4: Chain-oriented (educational process seen as part of a chain, network of contacts, curriculum is formulated according to qualifications of professionals)

Stage 5: Society-oriented (long-term strategy exists, policy aimed at constant improvement, broad-based stakeholder interactions, university is active in society, learning is reflexive and change-oriented)

To use this instrument, each of the criteria are related to the stages, which are delineated according to specific indicators. When all the criteria have been assessed using the stage framework, the results are related to each other to develop a sustainability profile of the university. This audit provides useful data for universities to inform short, medium and longer term development planning and to assess their relevance to broader social, environmental and economic trends.

Example of how each criteria is assessed using criteria and stage-based indicators.

Criteria 2.3 Staff development planning				
Stage 1: Activity- oriented	Stage 2: Process-oriented	Stage 3: System-oriented	Stage 4: Chain-oriented	Stage 5: Society-oriented
Staff development depends on individual	There is an ESD staff development plan.	Staff needs for ESD are indicated in institutional	Lon- term planning for ESD staff Policy is	Staff planning for ESD needs has involved stakeholders

initiative	The plan is short-term	planning. Planning is mid-long term	developed to address staff needs for ESD. Is consistent with vision and mission of the institution	(industry, society, etc). Feedback system exists between university and stakeholders
Stage:				
Comments:				

A fun activity

Using this instrument, can you indicate what stage your university is in terms of staff development planning for ESD?

Could you indicate at what stage your university vision and policy is?

What other items would you add to the AISHE instrument for sustainability in African universities?

Try to identify similar instruments that can be used in your university context for guiding the implementation and monitoring of sustainable development.

Links to the academic and management programme: A fundamental problem often associated with sustainable campus management, probably at most institutions, is the gap between the academic and the non-academic staff and management functions of universities. This is problematic because resource management is the function of the non-academic staff (administrative staff, support staff such as cleaners and other workers, residence personnel and contractors) while much of the awareness-raising and training about environment and sustainability is aimed at academic staff. As a result, we may find that:

- cleaners mix up carefully sorted waste, because they do not understand the need for or the process of recycling;
- contractors responsible for maintaining the gardens waste water, because they do not pay the water bill and do not understand the need for conservation;
- residence staff do not consider or enforce energy-saving measures; and
- lecturers do not use campus resource management processes like paper recycling or water/energy-savings procedures as useful substance for research or teaching. As a result, the potential educational benefits of these activities are lost.

What can be done?

What can be done at your institution to implement some of these sustainable campus management activities?

How can you avoid the potential problems listed?
Have you encountered any other problems that may need to be addressed?

Planning, monitoring, evaluating and review

Planning

In this module we have introduced various strategies and tools that can be used to guide the planning of ESD in universities. Here are some pointers:

- Think of sustainable development as a *learning process* in the context of the university.
- Plan with your organisation's vision, mission and objectives in mind.
- Interrogate the underlying assumptions that shape the university's culture and strategies.
- Plan with the 'whole picture' in mind.
- Plan strategic initiatives, drawing on networks and partners to get started.
- Identify champions to drive the initiative.
- Ensure that the university leadership is on board.
- Assess the current situation to work out where to start.

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What else?

Think back over the contents of modules 1, 2 and 3. What else should weconsider when planning for ESD innovations?

Monitoring, evaluation and review

Using some of the assessment and auditing instruments mentioned, universities are beginning to monitor, evaluate and review their sustainability performance regularly.

Assess and develop audit instruments

Consider again the AISHE auditing instrument mentioned. Could you use an instrument like this to monitor regularly and review sustainability on your campus?

How could you ensure this or a similar instrument is used in participatory manner in your university so that a maximum number of staff and students is involved in the process?

Universities often also have formal monitoring 'forums' or committees. For example, Rhodes University has an Environmental Programmes Committee and a Community Engagement Committee, both of which

are involved in sustainable development issues. Sometimes, these committees are not 'synergised' and may not talk to each other. University management needs to oversee a range of policies and programmes (see the case of Botswana University above) to ensure that sustainable development practices are adequately implemented.

Integrating ESD indicators into the university academic quality management system would probably enable a 'sustainable monitoring' system for ESD innovations in academic programmes.

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Student research projects can also provide a powerful resource for university management to evaluate and monitor the implementation of ESD practices in a university. For example, at Rhodes University in South Africa, the third-year Environmental Science students undertook a group evaluation of the implementation of the University Environmental Policy. They found that only a few departments were 'taking it seriously'. This was reported to the Environmental Programmes Committee, which then called for a policy review. Since then the Committee has been reconstituted, and will now report directly to Senate.

This is not always easy, however, especially when there is a poor culture of research or evaluation in a university as a whole. This can at least partly be linked to an institutional culture, in which the university is regarded more as a teaching than a research institution (and most research happens in the science faculties), and researching teaching practice is not well-established.

Curriculum indicators for ESD

The AISHE Instrument suggests the following indicators for monitoring the implementation of SD curricula:

Stage 1: ESD content and activities are incidental.

Stage 2: The curriculum includes planned modules on ESD where students are encouraged to develop critical and reflective attitudes.

Stage 3: ESD pedagogies involve real-life encounters with sustainability issues and questions, which develop critical and reflective attitudes.

Stage 4: ESD pedagogies permeate teaching, and are used with long-term intent. Good feedback is provided to students and partners involved in the pedagogical processes.

Stage 5: Feedback on ESD pedagogies and learning activities is provided by the society in which students are participating.

What other items may have been useful to include?
Could you use these to establish your own progress with regards to

Using sustainability tools?

Shriberg (2004) undertook a review of 10 campus sustainability assessment tools including AISHE. He found that campus assessment tools differ greatly, and that most excel in capturing baseline data on environmental and sustainability performance through an eco-efficiency framework. Most campus tools (according to Shriberg, 2004) also excel at gathering process-oriented information on how campuses are beginning to manage for sustainability. Most tools also provide a framework for strategic planning through identifying important issues, and methods to set and achieve prioritised sustainability goals.

However, most campus assessment tools do not provide mechanisms for comparing campus efforts against other institutions or national/international averages. Shriberg (2004) indicates that this reflects a fear of 'sustainability rankings' (universities being ranked according to their sustainability performance). He also notes that most assessments do not address the rationale for 'why' sustainable development initiatives were started or why they are relevant and are maintained (i.e. they lose their history). Most focus on operational efficiency, although theory and practice point to the need for sustainability integration across all functional areas. His final point is that most sustainability tools do not effectively communicate methods and results.

Shriberg (2004) also frames some 'essential attributes of sustainability in higher education. He describes the following parameters:

- **Decreased consumption/throughput**: This involves decrease in the use of water, energy and other materials and inputs.
- **Centrality of Education for Sustainable Development**: This involves integrating sustainability questions into core curricula and courses in many disciplines. It also includes a focus on active, problem-based and service learning addressing local as well as larger socio-ecological issues, involving all students on campus.
- **Cross-functional integration**: This involves integration of ESD into teaching, research, operations and community engagement work. This involves paying attention to the inter-related environmental, social and economic aspects of sustainability.

See the To more inform sustainabili indicators.

- **Cross-institutional integration:** This involves integrating a university's role into broader society. For example, this involves employment and effectiveness of graduates, and the role of the university in social and economic development. It also involves inter-institutional partnerships and networks.
- **Incremental and systemic progress:** This involves recognising that sustainability is a long-term process, and that organisations need to be learning organisations. It involves the systemic integration of sustainability into universities.

Review AISHE

Review the AISHE tool using these broad 'indicators'/'essential attributes' of sustainability in higher education (as outlined by Shriberg, 2004).

Also think about the nature of sustainable development issues in Africa (as discussed in Module 1). We indicated that Alier-Martinez differentiates between eco-efficiency perspectives in environmentalism, and an environmentalism of the poor (a stronger social justice perspective). What would these perspectives mean for the design of instruments for monitoring and evaluating sustainability in African universities?

Can we simply 'adopt' instruments that are largely framed within an eco-efficiency orientation?

Putting it all together: ESD innovations in the university

As we have seen in Module 1 and 2, there has been much talking and writing about issues of sustainable development globally as well as in the African region. We have discussed the relationships between university and society. We have looked at a wide range of possibilities for innovations in thinking, in curriculum and teaching, in research and community engagement work. We have also looked at how we can strengthen our institution's capacities for ESD-related work, by examining a range of different dimensions of institutional practice and life. As we near the end of this module, and the ESD Innovations course, there are two key issues outstanding:

- How do we go about situating our innovations in African context and culture?
- How do we adopt transformative approaches to our practice?

These two questions are discussed in this, the final section of the ESD course. They are, however, also key 'starting points' for the work that we will do after the course when we begin to implement ESD innovations in university-community contexts.

Situating our innovations in African culture and context

Thaman (2002) writing to us from the School of Humanities in the University of the South Pacific, tells a story that is all too familiar to African people (including academics):

> "Many of these notions [referring to sustainable development, good governance, democracy, accountability, transparency and human rights] have become particularly fashionable, not only amongst academics and conference participants, but also among international financial institutions, money lenders and providers, many of whom are not driving development in so-called developing countries where finance is provided only with the price tag of structural and other reforms and 'adjustments'. However, for most ordinary people in developing countries, for whom English (or French in some contexts) is a second, third, or sometimes fourth language, such fashionable ideas remain meaningless words that are spoken by often-times corrupt

> politicians and bureaucrats, especially when officials of and consultants for international and donor agencies arrive to talk about 'development' projects. Most of these projects are determined and assessed (by these consultants) to be good for the people of developing countries but often these projects tend to make things worse until the next group of consultants arrives to try to make them better again … One reason for the apparent breakdown in much of the development discourse may have something to do with the fact that … these very important ideas and themes are linked not only to the English (or French) language, but also to the particular cultural histories to which Oceanic [and African] people and their cultures are only partly linked through colonialism and its modern manifestation, globalisation … such notions need to be translated into our various vernacular languages, and if possible, equivalent ideas from our home cultures and languages need to be identified, in order for us to … embark on more meaningful communication and discussion [and education]."

Thaman (2002) goes on to explain that in Oceanic culture, time is not conceptualised in a 'linear model' i.e. a striving for something to come in future (e.g. sustainable development), but rather time is represented in a circular configuration, in which the past, the present and the future are combined in an 'all-embracing 'now' in which the living and the dead [ancestors] are all linked in a presence that is the future. He argues that awareness of such differences is a pre-requisite for any discourse on sustainable development, and is the 'first major challenge' for research in and education for sustainability, especially in universities in a culturally- diverse region such as the Asia/Pacific. His argument would seem to be equally valid for the African context, which is also characterised by a rich diversity of cultural perspectives. Thaman's view is that, for development to be authentically situated and for development to be sustainable, it should be rooted in a people's cultural values. African cultural values such as trust, reciprocity, compassion, *ubuntu*, and their interdependence with the African environment are at the centre of defining what sustainable development is likely to mean in an African setting, and should lie at the heart of re-orienting universities towards sustainability."

He explains further, and argues for approaches to ESD that are situated in culture and context:

"In my island part of the earth and ocean, the globalisation of Western, scientific and industrial culture - to which universities have made a huge contribution – may be similar to the spread of monocultures in agriculture where imported, hybridised fertiliser and pesticide-

dependent seeds produced at a profit for multi-national corporations crowd out the indigenous local varieties and the knowledge and management systems associated with them … If universities are to contribute positively to sustainable futures … the biggest challenge would involve the acceptance of indigenous and alternative ways of seeing the earth in its totality … it means lending support to efforts to reclaim indigenous knowledge and philosophies that are culturally inclusive and sustainable … This challenge of inclusion is a major one because it requires the academy to recognise that culture is the foundation of sustainable development … to see the development of our region only through the eyes of Western rationalism and corporate culture is to do a grave injustice to our ancestors and cultures … indigenous worldviews complement beliefs in Western science … most importantly, it [sustainable development] is not a new perspective". Every civilisation used to view the Earth and people as being connected and interrelated.

Discussion

Do you agree with the sentiments and perspective of Thaman (2002)?

Discuss the meaning of 'sustainable development' in your language and culture. What words are used to describe culture, life, environment?

UNESCO describes culture as the 'whole complex of distinctive spiritual, material, intellectual and emotional features characteristic of a society'. Does this capture your notion of culture?

How do we ensure that ESD in African universities is not implemented in a 'cultural vacuum'? How do we avoid ESD being implemented within the discourse and development models that have failed/are failing African society?

Can you take the risk?

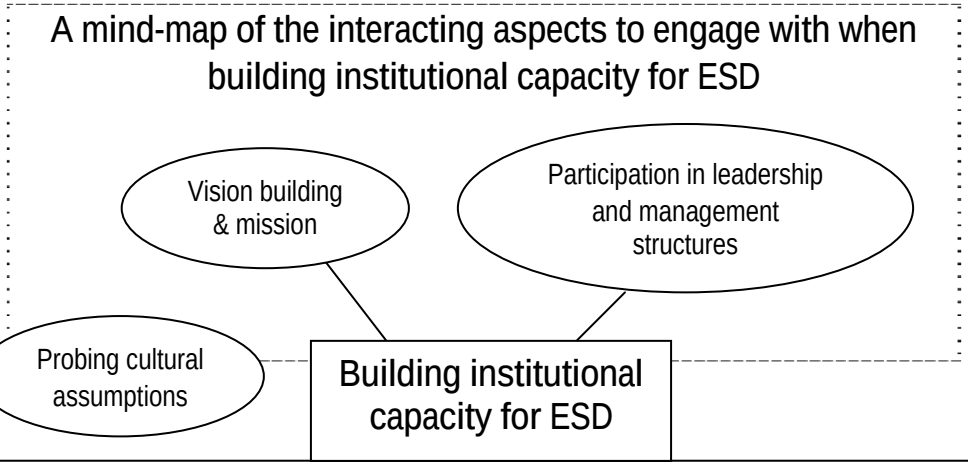
Thaman (2002) ends his paper with a challenge for university professionals. He states that we need to create a future through examining our own ways of thinking and knowing (our cultural roots). We need to explore what might have changed/be changing so that we may create a future that is not only sustainable, but also inclusive in its process, context and outcomes. He sees this as the greatest cultural challenge of all. He asks of us: "I invite you to take the risk – and start a new 'tradition' in your institution/university"

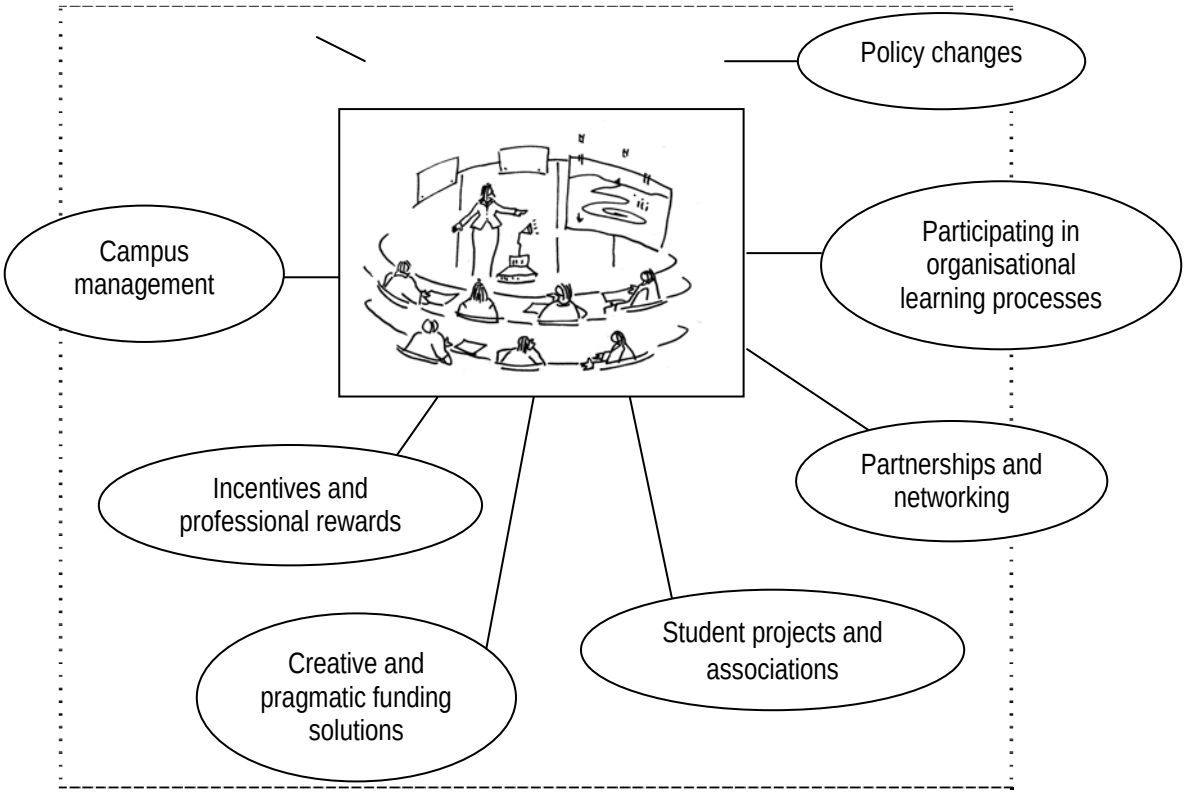
Transformative and reflexive approaches

As indicated by these discussions, there are many different dimensions to integrating ESD innovations into a university system. These include:

- contextualising our innovations in African culture and context;

- conceptualising and locating ESD innovations within the broader processes of reorientation and innovation in the university system and its changing relationship to society,
- establishing a relationship with university management – this may be through leading ESD innovations from the 'bottom up' or convincing leaders in the university to 'lead from the top', or a mix of strategies;
- considering what kind of leadership would be most appropriate for dealing with sustainability challenges;
- developing a better understanding of the culture of the organisation, and the assumptions which shape this culture, as well as an understanding of how organisations *learn*;
- taking account of existing policies and strategic frameworks, and identifying ways of working within these policies and strategic frameworks and/or contributing to revisions of these, or development of new policies and/or strategic frameworks;
- being pragmatic about funding realities, and planning innovations accordingly;
- building partnerships and networks in the university, and with like-minded groups and stakeholders;
- linking up with and aligning with institutional performance management and professional reward frameworks and systems;
- strengthening and encouraging student action projects and organisations for sustainable development;and
- implementing sustainable development campus management policies and approaches.





Building capacity for ESD in university systems will require critical, proactive and transformative engagements with all of these dimensions. What will be important is to **'build a picture of the whole'** as we engage with these different dynamics and dimensions of the university system. According to Flood (2001:133, cited in Stirling, 2004), systems thinking argues that "valid knowledge and meaningful understanding comes from building up whole pictures of phenomenon, not by breaking them down into parts". Stirling argues that "sustainability does not simply require an 'add on' to existing structures and curricula, but implies a change of fundamental epistemology in our culture, and hence also in our educational thinking and practice. Seen in this way, sustainability is not just another issue to be added into an already overcrowded curriculum, but a gateway to a different view of curriculum, of pedagogy, or organisational change, and particularly of ethos". He argues that the effects of the patterns of *unsustainability* on our current and future prospects are so pressing that our responses cannot be limited to simply 'integrating sustainability' into higher education, as this is only a limited, adaptive response.

Stirling (2004) argues for a *transformative learning* approach to introducing sustainability into universities. This, he argues, correlates with the findings of O'Riordan and Viosey's notion of the 'sustainability transition' (cited in Stirling, 2004) which suggests that a four-stage shift

in the transition to sustainability is necessary. A shift from 'very weak sustainability' to 'very strong sustainability', characterised by changes in environmental and economic policies, and in degrees and types of public awareness involving a cultural shift in society and a renewal of emphasis on local democracy and activity. They also propose a social-learning response, in which society learns to reorient towards sustainability.

Stirling provides a model of learning responses by both education and wider society, in which the learning responses are linked to action responses (see model on next page).

Type of response	**Resultant change**	**Type of learning**
1. No response	No change	Denial/ignorance (no learning)
2. Accommodation	Green gloss	Adaptive
3. Reformation	Serious reform	Critically reflective adaptation
4. Transformation	Whole system re-design	Transformative

This model of change needs to be seen as a process model, in which societies and institutions work towards sustainability transitions (Stirling, 2004). It is not a simple linear progression process, but is better seen as interacting dimensions of learning in different contexts (one university could show all different kinds of learning in different ways). Stirling (2004) sees value in a somewhat 'linear' approach to articulating the achievement of change through increasing levels of 'deeper learning'. Other theorists, however, would be sceptical of these linear models of change, recognising a more complex, chaotic orientation to change. Others would argue that we should not only set our sights on 'learning for sustainability' (Jickling, 1999) as education may well enable us to develop solutions other than those defined in sustainability discourse. Others argue and that we need to adopt **a** *reflexive orientation* (open-ended and evaluative) to the discourse and models being proposed to guide ESD (Lotz-Sisitka, 2004). Considering learning for sustainability heuristics such as the one provided by Stirling (2004), may, however, help us to consider, try out, and evaluate different options (and thus to become more reflexive). It is in this light that this heuristic is included in this text – to provide us with some vantage points that can assist with the development of ESD practice in universities that is 'rooted in African soil' and based on deliberations in and with the wider world.

Final question

Considering the previous section on situating ESD in African culture and context, how would you use the model provided by Stirling (2004) in a reflexive way in your university context?

Conclusion: breaking down the wall

This module has pointed to the many different dimensions of building capacity in universities for enabling ESD practices to take root and grow. The module has argued that to do this, we need to consider how to situate our ESD innovations in African culture and context, and that we need to 'build a picture of the whole' when we are working on specific projects or innovations. We need to develop a transformative vision to guide our actions. As we noted in the introductory texts to the MESA Universities Programme and the ESD Innovations Course, ESD in African universities has the potential to broaden the university's contribution to its society. The University of KwaZulu-Natal in South Africa has expressed this as seeing the university as a new 'development hub' in society. Others express this by referring to the 'social relevance' of universities (Singh, 2001). Mamdani (1994) referred to this process as rooting African universities in African soil. Odora Hoppers (2002: 22) also considers the role of the university in sustainable development. She writes:

> Visvanathan has argued that the university is a futuristic institution that makes innovative use of the past. But at the same time, as one of the last surviving of medieval institutions, in fact the only one of its guilds to adapt and survive in modern society, the university has still remained a microcosm of the walled city. Today the wall may not exist, but the separation of the university and society is real. It is a source of tension, but also creativity.

Can we, through our ESD innovations explore this tension with the depth and rigour that characterises the academic enterprise, and unlock its inherent possibilities for creativity?

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