Development, use and significance of the Unit-based Sustainability Assessment Tool for Universities in Africa and Asia

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ABSTRACT

Six years have passed since the Unit-based Sustainability Assessment Tool (USAT) was developed for use in sustainability mainstreaming in universities. It was developed in 2008 (and published in 2009) as part of a PhD located within UNEP’s MESA Universities Partnership, a project initiated to facilitate mainstreaming of sustainability within universities. The development of the tool was in line with Phase 1 activities of the MESA Universities Partnership whereby the need for a systems approach in sustainability mainstreaming was identified. Linked to this systems approach was a need for a relevant supporting auditing tool that could inform decision-making processes, particularly in identifying Change Projects. The tool, based on a systems thinking approach and informed by critical realism and other sustainability assessment tools (SATs), has the advantage of in-built flexibility, which allows it to be used at different levels (e.g. programme, department, and faculty). It therefore caters for a variety of needs. The use of the tool within the International Training Programme started in 2008 in Africa, during its pilot phase, but has since spread to Asia. This paper discusses the rationale behind the development of the tool, how best to use the tool and what it has enabled within the MESA partnership.

Background to ESD mainstreaming

The Decade of Education for Sustainable Development (DESD) (2004 to 2015) was launched following the realisation that education was indispensable in achieving sustainable development (UNESCO, 2005). As argued by Orr (1994, p. 5), “The kind of education we need begins with the recognition that the crisis of global ecology is first and foremost a crisis of values, ideas, perspectives, and knowledge, which makes it a crisis of education, not one in education”. A transformative agenda was therefore necessary, both in thinking processes and practices. While all education institutions have a role to play, the role of higher education, particularly universities, in realising the aims of the DESD is more critical and, in essence, catalytic. This is because they are centres for the creation / development and dissemination of knowledge (Tünnermann Bernheim & de Souza Chaui, 2003). The role of universities is to seek solutions to societal problems, they have a responsibility for lower educational levels (primary and secondary) through teacher education, and it is their task to critically engage with knowledge and values and to develop future leaders of our social graduates, who can contribute in the advancement of knowledge and ensuring a high quality of life in future (Clugston, 2000). Waas et al. (2012, p. 8) argue that based on these and other roles, universities should be “moral visionaries and centres of sustainability innovation and excellence”.

Sustainability partnerships in higher education played a significant role in promoting sustainability mainstreaming to fulfil the DESD aim of integrating sustainability in university functions and operations. Just after the DESD was launched, sustainability partnerships started grappling with the concept; addressing issues of how to implement ESD. The Global Higher Education for Sustainability Partnership (GHESP), which predates the DESD (it was formed in 2000) was reaffirmed as a Type II partnership[[1]](#footnote-2) at the WSSD in 2002 (UNEP, 2006). Its main objective was developing and sharing strategies, models and best practices for promoting higher education for sustainability, and analysing experience in order to make recommendations in consultation with key Northern and Southern stakeholders (Clugston and Calder, 2002)[[2]](#footnote-3). The other partnership is the Association for University Leaders for a Sustainable Future (ULSF)[[3]](#footnote-4), which was formed with the mission to “support sustainability as a critical focus of teaching, research, operations and outreach at colleges and universities worldwide through publications, research, and assessment” (ULSF, 2008, para. 1). The Mainstreaming Environment and Sustainability in Africa (MESA) Universities Partnership was also formed, at regional level, to implement the United Nations DESD objectives in and through universities in Africa (UNEP, 2006). The objectives set out to strengthen Africa’s capacity in responding to sustainability challenges, by enhancing the quality and policy relevance of university education in Africa in the context of sustainable development and the Millennium Development Goals (Ogbuigwe, 2007).

ESD mainstreaming in higher education was also discussed at various international fora and from some of the gatherings emerged sustainability declarations in higher education. It is through these declarations that the priorities for universities in mainstreaming sustainability were defined. An example of a declaration that informed the PhD study is the Talloires Declaration, which identified priorities like developing ecological literacy, developing interdisciplinary curricula, encouraging research that contributes to sustainability, and having sustainable physical operations (Wright, 2002; 2004).

**The role and purpose of SATs**

While the fact that universities have a role to play in Education for Sustainable Development (ESD) has not been disputed much in literature, and that key focus areas for sustainability mainstreaming in universities were identified through sustainability declarations, the remaining challenge was an absence of clear cut guidelines as to how ESD can be implemented. Roorda (2001), referring to sustainability charters and declarations in higher education, the Talloires among them, observed that:

Although these documents contain important guidelines for education, none of them offers concrete prescriptions on an operational level for what Higher Education should do exactly in order to contribute maximally to sustainable development (Roorda, 2001, p. 6).

This gap is one of the main reasons why sustainability assessment tools (SATs) were developed, either within or outside sustainability partnerships. SATs were also developed to operationalise ESD policy guidelines in higher education, to define priorities for universities, to identify weak areas in terms of ESD implementation, and to benchmark mainstreaming initiatives (Shriberg, 2002a). Besides benchmarking initiatives, SATs also help to measure progress with time and provide a basis for institutions to compare and reflexively review their sustainability efforts. Assessment data collected using SATs can be used to develop sustainability reports, which, according to Lozano (2006), help to communicate the efforts and progress of the organisation / institution to stakeholders. According to Shriberg (2002b, p. 74-76), ideal sustainability assessment tools should:

* *identify important issues*: “Sustainability assessment tools should address contextually appropriate issues of major importance to campus environmental, social and economic efforts and effects”;
* *be calculable and comparable*: “The ability to calculate progress toward sustainability is often a limiting factor in assessment. Campuses require quick, yet penetrating ways to measure status, progress, priorities and direction”;
* *move beyond eco-efficiency*: “eco-efficiency indicators stress material utilization, environmental performance and regulatory compliance, while sustainability indicators stress issues at the nexus of the environment, society and economy with the goal of no negative impacts”;
* *measure processes and motivations*: “the tools to measure sustainability should delve deep into decision making by asking about mission, rewards, incentives and other process oriented outcomes”; and
* *stress comprehensibility*: “Sustainability assessment tools should be comprehensible to a broad range of stakeholders”.

Motivation and a brief historical context of the development of the tool

The Unit-based Sustainability Assessment Tool (USAT) was developed within the context of the MESA Universities Partnership with the aim of enabling a whole systems approach to sustainability mainstreaming among participating universities. The MESA Universities Partnership employed a phased approach with ESD implementation subdivided into three periods[[4]](#footnote-5). Among a few weaknesses identified from the implementation of Phase 1, was a lack of a systems approach at university level, with the programme relying on project implements by individual change agents (Ogbuigwe, 2008). Therefore, there was a need for a stronger systems approach "to be developed in MESA to support systemic changes in universities, so that innovations were not only dependent on individual efforts and university leaders needed to become more involved" (UNEP, 2008, p. 32). Research support to investigate the systems approach was provided in the form of a PhD study.

Designing and developing an appropriate auditing tool for use in universities to provide “good quality starting points to inform decisions on change projects" also became a key activity located within the PhD research (Lotz-Sisitka & Hlengwa, 2011, p. 6). At that stage, it was already evident from the programme that mainstreaming involved many different activities in the university, depending on focus, status and level (Lotz-Sisitka & Hlengwa, 2011). Issues of flexibility in use were considered and built into its design. The USAT was developed as a MESA-linked output to strengthen the programme toolkit and other associated activities.

The USAT was used to collect data for the PhD, which also served to pilot test the tool in a whole institutional assessment of the curriculum and other practices. During the same year, it was also piloted in other MESA universities. Feedback from the pilot tests resulted in the further improvement of the tool. It was then published in 2009 for further use within and to support the MESA Universities Partnership. The same year it was selected by UNESCO, as part of the broader MESA Universities Programme, as one of the five projects from Africa for exhibition at the World Conference on Education for Sustainable Development in Bonn, Germany.

The logic behind USAT design features

***Justification and theoretical grounding***

The basic argument behind the structure of the USAT was that, in order to succeed in Education for Sustainable Development, universities and other education institutions need to depart from reductionist approaches, whereby educational programmes have a limited approach to disciplinary content and in all other functions and operations. This was supported by a growing body of literature on sustainability mainstreaming that argued for a whole systems approach as:

1. the missing or lacking unifying theoretical framework that can help education practitioners to develop guidelines to effectively meet sustainability goals (Krasny, Sriskandarajah, Sterling & Tidball, n.d.);
2. a theory that can aid in the “transformation of higher education towards the integrative and more whole state implied by a systemic view of sustainability in education and society” or else the response of higher education to sustainability is likely to be partial and rather “a limited adaptive response” (Sterling, 2004, p. 50-51);
3. an “emergent postmodern paradigm”, which suggests an epistemological change from reductionism towards holism, where higher education institutions are expected to respond sufficiently (*response-ability*) to the wider social context of the crisis of unsustainability, viewing education as a subsystem of society (Sterling, 2004, p. 50); and
4. a theory that can be applied in higher education, e.g. in the development of courses and training / education programmes, in thinking about and effecting change in the organisations that make up the higher education sector; and in thinking about and effecting designs for the higher education sector as a whole (Ison, 1999, p. 108).

The tool was informed by systems thinking concepts including:

* holism, which argues that systems of various orders cannot be understood by investigating their parts in isolation (Bertalanffy, 1968), as the properties of parts cannot explain their combined effect (see the concept of emergence explained below) (Banathy, 1997; Gilbert & Sarkar, 2000; Sayer, 2000; Danermark et al., 2002);
* hierarchy theory, which explains the differences between different levels of complexity, where systems are arranged in a hierarchy of complexity (Boulding, 1956, Checkland 1999);
* the concept of an open system where universities are modelled as human activity systems (which are open systems) sustained by internal and external relations and the process of regulation; and are in exchange of energy with their environment (Banathy, 1992; Checkland 1999); and
* the concept of feedback, which explains the exchange of materials, energy and information between an open system (the university) and its environment (the community and broad environment), and helps to explain the outcomes of a system in relation to the expected goals (Bertalanffy, 1968; Banathy, 1996).

The development of the tool was also informed by critical realism, particularly the concept of emergence and the structure agency debate from a critical realist perspective. Critical realism argues that the world is characterised by emergence, where the conjunction of two or more features leads to the development of new phenomena with properties that cannot be reduced to those of their constituents (Sayer, 2000). The concept of emergence explains new properties that result from the conjunction of two or more features. Even though the concept of holism was found to be relevant in designing the tool, the critical realist theory of social change was also taken into consideration in developing the tool, as it argues that different strata or units (sub-systems in systems theory) may possess different emergent properties and powers or “anterior” powers different from the powers of other strata, thus “having independent causal powers” that influence the whole in unique ways (Archer, 1995, p. 14). Effectively, this meant taking into consideration the fact that faculties / departments / units may have different structures, histories, priorities, resources, leadership styles, visions, and philosophies (including understandings of sustainable development), and may therefore influence the whole system in unique ways. Thus, the design of the tool had to observe both the theory of social change and emergence.

In summary the discussed theories informed the USAT as follows:

* the university is viewed as a whole system with its own functional units (sub-systems), but also as a sub-system of society. USAT indicators therefore assess both the contribution of the tool to university sustainability and in terms of responsiveness to its environment in which it is a sub-system (holism, hierarchy, open system);
* USAT assessment results help to identify areas where institutions are lagging and therefore point out areas where universities can focus on to enhance their contribution to sustainability both within the institution and in the environment (feedback); and
* the USAT design is founded upon a unit-based structure to enable data collection at department / faculty level, yet still enables the creation of a whole picture of sustainability to be built from the same results (social theory, emergence).

***Experiences with earlier developed SATs***

Only three tools that were easily accessible online at the time of the PhD study were reviewed to consider their appropriateness in collecting relevant research data. After reviewing the three SATs, none of them was found to be perfectly aligned with the objectives of the PhD research and the aims the MESA Universities partnership. The three tools were therefore reviewed with the aim of informing a new and relevant tool.

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| A summary of the review of other SATs  NB: This summary is based on an earlier publication by Togo and Lotz-Sisitka (2013).  Within the context of the Association for University Leaders for a Sustainable Future (ULSF), the Sustainability Assessment Questionnaire was developed with the aim of providing a snapshot of institutional sustainability practices. Therefore paving way for designing sustainability strategies at the local level (Shriberg, 2004). One of its main virtues has been identified as defining sustainability in higher education comprehensively (Shriberg, 2004). While the ULSF argues that its main weakness is that it is qualitative and impressionistic and that responses cannot be used to rate or compare institutions (ULSF, 1999), during the PhD study it was also found that it was difficult to establish the contribution of individual university functional units to the comprehensive picture of sustainability it creates as information is collected at institutional level. In addition to this concern there is the challenge of finding individuals who are adequately knowledgeable to fully respond to the questions. The data collection process using the SAQ is also tedious and time consuming as respondents are expected to list, for example, all the courses and research efforts related to sustainability (Shriberg, 2002b).  The Auditing Instrument for Sustainability in Higher Education (AISHE), which was developed following a request by the Dutch *Committee for Sustainable Higher Education* (*Commissie voor Duurzaam Hoger Onderwijs*, CDHO), was also in response to the fact that there were no guidelines as to what universities were exactly required to do in mainstreaming sustainability (Roorda, 2001). It was developed to generate a list of criteria for auditing sustainability (internal or external) to establish the level to which a university (or part of it) has succeeded in implementing sustainability. While its virtues are identified as the in-built process oriented approach and fostering participation in the auditing process, its major weakness is that it is based on criteria that are abstract and difficult to understand and it is not based on indicators, making it difficult to understand the goals or aims of mainstreaming (Shriberg, 2002b).  The third and last tool reviewed is the tool for the Graphical Assessment of Sustainability in Universities (GASU), which was modelled against the Global Reporting Initiative Sustainability Guidelines (Lozano, 2006). Aimed at facilitating analysis, comparison and benchmarking of sustainability efforts, the GASU is based on quantifiable indicators that enable graphical representation of sustainability assessment results and, according to Lozano (2006), enables better transparency, consistency and usefulness for decision-making compared to accounts and narrative assessments. While the GASU is holistic in terms of the dimensions of sustainable development (the indicators are subcategorised into economic, environmental, social and educational dimensions), the indicators in the context of the aims of the PhD study were found to be limited as they are not aligned with university functions and operations and therefore omit functions like policy, university management and student initiatives. |

Therefore, after reviewing the three tools, it was decided to develop an assessment tool that was informed by the existing tools and the aims and objectives of the PhD and, consequently, the needs of the broad MESA Universities Partnership initiative. Even though the USAT was informed to a large extent by the existing tools, it was also based on the research context. Table 1 indicates how the USAT was informed by the three SATs.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Tool** | **Definition of university sustainability** | | **Indicators** | **Assessment criteria** | **Data representation** | **Design** | **Respondents** |
| SAQ | ✓ | ✓ | | ✓ |  | ✓ | ✓ |
| AISHE |  | ✓ | |  |  | ✓ | ✓ |
| GASU |  |  | | ✓ | ✓ | ✓ | ✓ |

Table 1 How earlier developed SATs informed the USAT

***Other factors***

Consideration was also made of environmental factors and the context in which the USAT was going to be used, particularly in the development of indicators. Besides the features that were influenced by the theories informing the PhD study and the earlier developed SATs, the tool also had to consider international policy guidelines and objectives as defined by the declarations. The tool needed to be relevant to the context in which it was going to be employed in assessing sustainability. There was a need to develop indicators that can be used to measure progress in the areas identified to be of critical importance to higher education through declarations. Some of these areas relate to the responsiveness of the universities to the context in which they are located, and to the practices aimed at sustainable management of the campus environment. This was very important because sustainability challenges and needs differ with contexts.

The design of the USAT

The design features of the USAT have already been fully documented in previous research papers and the PhD thesis (Togo, 2009; Togo & Lotz-Sisitka, 2009; Togo & Lotz-Sisitka, 2013). This chapter will therefore not go into detail, but will briefly summaries those features found to be relevant and useful in the MESA Universities Partnership.

***Division into units***

The unique feature that distinguishes the USAT from the discussed three tools is its unit-based framework, which also serves to provide building blocks in terms of developing a whole university picture of sustainability from assessment data. Figure 1 is a representation of the parts of the USAT and the institutional operational functions each of the parts is intended for.

Figure 1 Parts of the USAT

Each of the four parts depicted in Figure 1 contains a list of indicators that function as guidelines of initiatives and practices that universities are encouraged to engage in as part of sustainability mainstreaming (see Appendix 1 for the indicators).

USAT indictors were arrived at after a review of literature on sustainability in higher education, earlier developed SATs, systems theory and critical realism. They entail initiatives, practices and aspects of university functions that are useful in determining how the university is performing in terms of sustainability mainstreaming. Basic features of these indicators are that they are measurable, thus they can be used for benchmarking initiatives and for progress reporting, including comparative analysis across institutions. Another feature, as captured in Figure 2, is that they are meant to guide the universities (just like other SAT indicators) as to which initiatives they should focus on in sustainability mainstreaming. As depicted in Figure 2, additional aspects that characterise USAT indicators are that they are open-ended, allowing users of the tool to identify more indicators where relevant, leave out those indicators that are not relevant to the context, or modify the existing ones. Take note that Part B and C of the tool slightly differ in that they do not just detail indicators. They also ask for additional information, e.g. what can be done to improve the practice (Part B) and an outline of activities (Part C) (see Appendix 1).

Areas identified as crucial for universities interested in mainstreaming sustainability to get engaged in

Indicators should be treated as guidelines

Indicators can be modified depending on context

More indicators can be identified, and added

Indicators found to be inapplicable to a certain context can be omitted in the assessment

Figure 2 Characteristic features of USAT indicators

In assessing sustainability using the USAT, the selected respondent rates each of the indicators against predefined assessment criteria that use ordered response levels (see Togo & Lotz-Sisitka, 2009, Togo & Lotz-Sisitka, 2013 for elaboration). The assessment criteria are provided in each of the four parts of the tool (see Appendix 1).

Built into the criteria is a mechanism to check for the quality of the data where the rate X means *Do not know,* whichdistinguishes between absence of evidence (rate 0) and lack of information on the part of the respondent. Thus, users can easily get an idea of the accuracy of collected data. The resource book provides guidance on understanding X; it suggests that if more than 40% of the responses are rated X in the assessment there is a need to find a more knowledgeable respondent (Togo & Lotz-Sisitka, 2009). Part B and C even go a step further and ask respondents to indicate whether they have adequate information about a practice, despite them having rated it. This is useful as a pointer in designing tools to collect data to support USAT assessment results, particularly evidence of existing practices identified through the assessment.

How to best use the USAT

This section explains how the USAT can best be used to achieve maximum benefit. A staged process is suggested as captured in Figure 3. These stages were developed from past experiences with the use of the tool.

Figure 3 Key steps in the use of the USAT

It is necessary for anyone wanting to make use of the USAT to read the resource book and fully understand the tool (Togo & Lotz-Sisitka, 2009). The resource book explains in detail all the parts of the tool and the indicators. While it does not provide information on how users can get help and support when they employ the USAT in sustainability assessments, the developers of the tool have been supporting its use, formally through workshops organised as part of the MESA Universities Partnership, and informally by answering any queries by users within and outside of the MESA Universities Partnership.

The second step in using the tool is to identify a knowledgeable respondent. This depends on the level at which the tool is employed. Through pilot testing the tool by collecting data at departmental level, it was realised that the ideal people to assess sustainability are Head of Departments. Because Head of Departments have an overall understanding of departmental activities, they are logically the most suitable respondents. Though, during the use of the tool in the PhD study, there was a Head of Department who had recently been appointed from outside the university. He did not have comprehensive knowledge of departmental programmes, research and other initiatives and that made him a not so knowledgeable respondent. For that department, the deputy head was then identified as a more knowledgeable respondent. When used at faculty level, the Dean of the faculty in question will be the ideal respondent, while at programme level, it is the responsibility of the programme coordinator.

The third step is employing the USAT for assessment. While the individual undertaking the assessment may have read and understood the USAT resource book, they also need to equip the respondents with adequate information for them to correctly rate their initiatives. Thus, the best way for undertaking the assessment is a guided approach where the researcher is face to face with the respondent. That way they can go through the indicators together and the researcher can explain the indicators further if need be. However, other ways of doing the assessment can also be productive. An example is emailing the tool and having the respondents do a unguided self-assessment (see Togo & Lotz-Sisitka, 2013). Queries can also be addressed via an exchange of emails.

Just after the assessment, there is a need to check the data for quality. This is done by checking the frequency of occurrence of the rate X in the responses. For Part B and Part C assessments, a check should also be made of areas where the respondent indicated that they do not have adequate information. Where there are too many indicators rated X (i.e. 40% if a researcher decides to use the guideline in the resource book), a more knowledgeable respondent has to be found and the assessment will have to be done again. Where respondents have indicated that they do not have adequate information in the case of Part B and Part C, this can be addressed by following the assessment up by collecting additional evidence and triangulate the data, as discussed below.

The assessment is followed by an analysis and representation of the data. While the examples of different representation techniques provided in the resource book may not be exhaustive of how USAT results can be illustrated, the use of radar diagrams is probably the most adequate technique as it provides a pictorial view of the level of integration of sustainability in the different units (Togo & Lotz-Sisitka, 2009). This makes it easy to identify areas where the university is strong and where it is lacking in sustainability mainstreaming. When used, say at department or faculty level in two or more departments or faculties, multiple data sets are produced. This data need to be consolidated through calculation of average ratings for each of the indicators. The results will then be used to show institutional sustainability.

The last step, which was found to be very useful and indispensable for researchers wanting a comprehensive picture of university sustainability, is to follow up on the assessment by collecting complementing data using other data collection tools. Examples of tools that have been used are interviews, document analysis and observations. Documents that researchers need to collect are documents that give detail or elaborate on the practices identified to be in existence through the rating of indicators.

***USAT data use***

Data collected from the assessment can be used for any of the following purposes:

* identification of areas that require attention in terms of enhancing mainstreaming of sustainability at an institution;
* benchmarking sustainability initiatives within an institution;
* progress assessment with time, where similar assessments can be undertaken periodically and the data can be compared to original assessment data to check if there is any progress in sustainability mainstreaming;
* sustainability reporting, particularly among institutions that are using the same tool; and
* comparative analysis of initiatives and progress among different institutions or even among different departments at one institution (USAT Part A).

***The benefits of using the USAT***

* The USAT is easy to use. Once the respondent has a full understanding of the tool and how it can be used, they can essentially do the assessment unaided.
* The tool has in-built flexibility and assessments can be done per unit, department or programme level, allowing targeted assessments to be done, where necessary, without having to carry out a full-scale institutional assessment.
* While assessments are done at unit level, the tool still enables a whole university picture of sustainability to be built from the individual assessments.
* The use of open-ended indicators, where users can omit, add or modify existing indicators to suit their context, is also a virtue and part of the tool’s in-built flexibility, as it enables the tool to be used in a variety of contexts.
* Generated data, once represented in graphs, especially radar diagrams, is easy to read and understand. High and low performance areas are easily identifiable.
* The in-built quality checking mechanism allows and enables the collection of quality and more reliable data.

The significance of the USAT in the ITP

Before embarking on the discussion regarding the significance of the USAT in the ITP, it is worth mentioning that the tool, initially developed for use in an African context, also found relevance in Asia. It was used in participating institutions in Asian countries in the same way as it was being used in Africa; essentially to identify Change Projects. At the moment, there is evidence of use of the tool in 35 institutions in Africa and Asia.

Togo and Lotz-Sisitka (2013) explain the manner in which the USAT has been employed in the MESA Universities Partnership, particularly in Africa. The paper, based on examples, discusses some of the audit findings using the tool, and how they were presented. Therefore, this section focuses on the significance of the tool in the International Training Programme, Education for Sustainable Development in Higher Education (ITP HESD) and what it enabled. Before this paper, there has so far been no attempt to come up with a comprehensive list of the universities that applied the USAT and how it contributed to their Change Projects. Table 2 in Appendix 2 lists all the institutions that employed the USAT and explains for each institution how the tool contributed to the Change Project.

The USAT was developed as part of the research support for the MESA Universities Partnership “to strengthen the MESA toolkit, and activities associated with the MESA programme” (Lotz-Sisitka & Hlengwa, 2011, p. 6). It formed an integral part of the “conceptual capital” of programme activities, allowing for “a substantive starting point and the development of a systems-based approach to the initiative” (Lotz-Sisitka & Hlengwa, 2011, p. 2). The tool is also said to have been “a central component of the success of the HESD ITP programme” with some of its strong points in the programme being its relevance to the African context, and flexible use both in terms of targeting diverse functional structures of the university and applicability at various levels of the university (Lotz-Sisitka & Hlengwa, 2011, p. 4). Experiences from the MESA programme have already shown that “mainstreaming involved many different activities in the university, depending on focus, status and level” (Lotz-Sisitka & Hlengwa, 2011, p. 6), making the tool ideal for the programme.

A key significance of the tool in the programme is that it enables the initial auditing of practices in participating universities; thereby, facilitating the identification of Change Projects (Lotz-Sisitka & Hlengwa, 2011). Among the universities that opted to use the tool, the results of USAT audits were central to discussions that took place during the Change Project implementation phase. Thus, the tool contributed in decision-making processes, particularly research-based and informed decisions making regarding the areas to focus on in the Change Project. USAT data provided evidence that universities could use as motivation for particular Change Projects. Because it is easy to identify areas in which sustainability mainstreaming is weak from USAT results, the tool enables selection of areas in which projects have the ability to make maximum impact.

The tool also helped in streamlining the Change Projects to focus on key functions of universities. Lotz-Sisitka and Hlengwa (2011, p. 21) identify project diversity and scope to be a potential problem due to a wide range of choices, making it necessary to have “a clear framework for mainstreaming environment and sustainability”. Similar to the orientation of the ITP, the foundation and design of the USAT was inclusive of “the framework of core functions of a university: teaching, research, community engagement and management”, thereby helping to streamline project focus areas (Lotz-Sisitka & Hlengwa, 2011, p. 21). As Lotz-Sisitka and Hlengwa (2011) report, this has other advantages including conceptual coherence and sharing of learning experiences among projects located within similar university functions.

Concluding remarks and recommendations

The USAT proved to be an important component of the MESA ITP materials, enabling participating institutions to make research informed decisions in choosing Change Projects. Among other things, the strong points highlighted in this paper are the tool’s in-built flexibility, which allows it to be used at a variety of levels (i.e. university, faculty, department or programme) and the grounding of the tool within a systems approach, which helped to shape the focus of the tool in alignment with the operational functions of universities, thus enabling streamlining the focus of Change Projects.

This chapter has not dealt with potential and experienced problem areas that emerged from the use of the tool. In addition, the chapter has not looked into the influence of the tool beyond the ITP. Going into the future, the following recommendations are suggested:

* Getting feedback from the institutions that employed the tool, so as to document their experiences, both positive and negative, and establish ways of making it more relevant and useful beyond the DESD and the ITP.
* Evaluation of implemented Change Projects using the tool, especially in those universities that used the tool to identify Change Projects. This will help to show the progress that has been made so far in such institutions.
* Enhancing the accessibility of the tool. There have been queries regarding the use of the tool by individuals wanting to use it in their own research outside of the ITP.
* Exploring ways to make the tool more user-friendly. So far, the USAT resource book is available in PDF format and does not provide access to a more user-friendly format, e.g. excel (e-worksheet). This would especially be useful for the easy capturing of assessment data and for conversion into graphic representations.
* Providing continuous support to users. This can be done by developing a central site from which the tool is easily accessible to users and that provides a platform for questions and answers and the sharing of experiences.

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Appendix 1: USAT Parts A to D

1. USAT Part A. Teaching Departments

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| Unit-based Sustainability Assessment Tool  PART A  Teaching, Research and Community Service  Institutions / departments committed to sustainability feature certain topics in their course offerings, e.g. globalisation and sustainable development, environmental philosophy, nature writing, land ethics and sustainable agriculture, health promotion, urban ecology and social justice, population, intercultural understanding and peace, women and development, human rights, overcoming poverty, sustainable production and consumption, the role of information and communication technologies and many others (ULSF, 1999). Sustainability would be integrated into faculty and student research on topics such as renewable energy, sustainable building design, ecological economics, indigenous wisdom and technologies, population and development, and total environmental quality management (ULSF, 1999). The Unit-based Sustainability Assessment Tool is designed to assist in assessing the extent to which your department is engaging in sustainable development concerns in its teaching, research and outreach activities. It requires you to give your impression on the identified dimensions using the assessment criteria below. |

|  |
| --- |
| Assessment Criteria  X = Don’t know no information concerning the practice  0 = None there is total lack of evidence on the indicator  1 = A little evidence show poor performance  2 = Adequate evidence show regular performance  3 = Substantial evidence show good performance  4 = A great deal excellent performance |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Score** | | | | | |
| **Code** | **Indicator** | **x Don’t know** | **0 None** | **1 A little** | **2 Adequate** | **3 Substantial** | **4 A great deal** |
|  | **Curriculum** | | | | | | |
| **C1** | The extent to which the department offer courses that engage sustainability concerns |  |  |  |  |  |  |
| **C2** | The level of integration of sustainability topics in courses referred to above |  |  |  |  |  |  |
| **C3** | The degree to which local sustainability issues and challenges form part of the department’s teaching programme |  |  |  |  |  |  |
| **C4** | The degree to which global sustainability issues and challenges form part of the department’s teaching programme |  |  |  |  |  |  |
| **C5** | The extent to which the department enroll students in courses that engage sustainability concerns |  |  |  |  |  |  |
| **C6** | The level of cross faculty collaboration in teaching sustainability programmes |  |  |  |  |  |  |
|  | **Teaching approach**  **How far the teaching approach contributes to development of the following characteristics among students:** |  | | | | | |
| **T7** | The capacity to make informed decisions |  |  |  |  |  |  |
| **T8** | Critical thinking skills |  |  |  |  |  |  |
| **T9** | A sense of responsibility |  |  |  |  |  |  |
| **T10** | Respect for the opinions of others |  |  |  |  |  |  |
| **T11** | Integrated problem solving skills |  |  |  |  |  |  |
|  | **Research and scholarship activities** |  | | | | | |
| **R12** | The extent to which the department (staff and students) is involved in research and scholarship in the area of sustainability |  |  |  |  |  |  |
| **R13** | The degree to which global sustainability issues and challenges form part of the department’s research |  |  |  |  |  |  |
| **R14** | The degree to which local sustainability issues and challenges form part of the department’s research |  |  |  |  |  |  |
| **R15** | The extent to which the department is collaborating with other faculties, institutions and stakeholders in pursuit of solutions to sustainability problems |  |  |  |  |  |  |
| **R16** | The extent to which aspects of sustainable development are used in selection/execution of research |  |  |  |  |  |  |
| **R17** | The level to which aspects of sustainable development are reflected in the department’s research outputs |  |  |  |  |  |  |
|  | **Community Engagement** |  | | | | | |
| **E18** | The extent to which the department (staff and students) is involved in community engagement in the area of sustainability |  |  |  |  |  |  |
| **E19** | The level of commitment of the department’s resources in sustainability projects in the community |  |  |  |  |  |  |
| **E20** | The degree to which local sustainability issues and challenges form part of the department’s community engagement |  |  |  |  |  |  |
| **E21** | The extent to which the department collaborates with other stakeholders in addressing community sustainability challenges |  |  |  |  |  |  |
| **E22** | The extent to which aspects of sustainable development are used in selection/execution of community engagement projects |  |  |  |  |  |  |
|  | **Examination (assessment) of sustainability topics** |  | | | | | |
| **X23** | The extent to which sustainability aspects are assessed/examined during course |  |  |  |  |  |  |
| **X24** | The extent to which sustainability aspects are considered in evaluating/assessing projects |  |  |  |  |  |  |
| **X25** | The degree to which sustainability aspects are assessed in evaluating service learning programmes |  |  |  |  |  |  |
|  | **Staff expertise and willingness to participate** |  | | | | | |
| **S26** | The level of expertise of staff members in the area of sustainability |  |  |  |  |  |  |
| **S27** | The extent to which staff members are willing to carry out research and service activities on sustainability aspects/topics |  |  |  |  |  |  |
| **S28** | The extent to which staff members are willing to teach sustainability topics |  |  |  |  |  |  |
|  | Others (please specify): |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

1. USAT Part B. Operations and Management

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| Unit-based Sustainability Assessment Tool  PART B  Operations and Management  Institutions committed to sustainability often emphasise some of the operational practices listed below (adapted from ULSF, 1999). The Unit-based Sustainability Assessment Tool helps to assess the extent to which an institution has implemented these practices using the assessment criteria below. Please complete the score sheet. Add a tick (✓) for key project areas and where more information is needed, leave blank where the practices are non-existent. Briefly indicate what you think can be done what can be done to improve the sustainability of the practice. |

|  |
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| Assessment Criteria  X = Don’t know no information concerning the practice  0 = None there is total lack of evidence on the indicator  1 = A little evidence show poor performance  2 = Adequate evidence show regular performance  3 = Substantial evidence show good performance  4 = A great deal excellent performance |

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| --- | --- | --- | --- | --- | --- |
| **Code** | **Practices** | **Rate** | **Key area** | **Inadequate info** | What can be done to improve the sustainability of the practice? |
| WR1 | Waste reduction practices |  |  |  |  |
| RW2 | Recycling of solid waste (including paper, plastic, metal) |  |  |  |  |
| TW3 | Source reduction of toxic materials and radioactive waste |  |  |  |  |
| AP4 | CO2 and air pollution reduction practices (including alternative fuel use, renewable energy sources, emission control devices) |  |  |  |  |
| AQ5 | Indoor air quality standards and practices |  |  |  |  |
| BC6 | Building construction and renovation based on ecological design principles |  |  |  |  |
| EC7 | Energy conservation practices (in offices, laboratories, libraries, classrooms and dormitories) |  |  |  |  |
| LP8 | Local food purchasing programme |  |  |  |  |
| PE9 | Purchasing from environmentally and socially responsible companies (including buying and using 100% post consumer chlorine free paper) |  |  |  |  |
| OP10 | Organic food purchasing programme |  |  |  |  |
| TP11 | Transportation programme (including bicycle/pedestrian friendly systems, car pools, bus pass programmes, electric/natural gas campus vehicles) |  |  |  |  |
| BF12 | Use of bio-fuel |  |  |  |  |
| WC13 | Water conservation practices (including efficient shower heads and irrigation systems) |  |  |  |  |
| PM14 | Integrated Pest Management practices (including reduction of pesticides to control weeds) |  |  |  |  |
| SL15 | Sustainable landscaping (emphasising native plants, biodiversity, minimising lawn) |  |  |  |  |
| OE16 | Integration of sustainability operations into the educational and scholarly activities of the university |  |  |  |  |
| RB17 | The presence of a body responsible for sustainable development at the institution |  |  |  |  |
| SH18 | Consideration of aspects of sustainability in staff hiring decisions |  |  |  |  |
| OR19 | Consideration of aspects of sustainable development in orientation programmes for new staff members |  |  |  |  |
| ST20 | Staff development in sustainable development |  |  |  |  |
| RE21 | Staff rewards in sustainable development |  |  |  |  |
| IP22 | Consideration of aspects of sustainable development in institutional planning |  |  |  |  |
| RF23 | Allocation of research funds for sustainability projects |  |  |  |  |
| AW24 | Awareness raising in sustainable development |  |  |  |  |
| SV25 | Visibility of sustainable development through celebration of environmental days (e.g. Arbor day, water week) |  |  |  |  |
|  | Others (please specify): |  |  |  |  |
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1. USAT Part C. Student’s Involvement

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| Unit-based Sustainability Assessment Tool  PART C  Student’s Involvement  Institutions committed to sustainability provide students with specific opportunities and settings. They also encourage students to consider sustainability issues when choosing a career path. Conversely, students can initiate some of the activities, especially if the institution is supportive. Listed below are some of the opportunities and activities for and by students (some were adapted from the ULSF, 1999), which reflect commitment to sustainability. The Unit-based Sustainability Assessment Tool helps in assessing the degree of involvement of students in environmental and sustainability issues using the given assessment criteria. Add a tick (✓) for key areas and where more information is needed; briefly outline key activities in the area of sustainability. |

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| Assessment Criteria  X = Don’t know no information concerning the practice  0 = None there is total lack of evidence on the indicator  1 = A little evidence show poor performance  2 = Adequate evidence show regular performance  3 = Substantial evidence show good performance  4 = A great deal excellent performance |

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| --- | --- | --- | --- | --- | --- |
| **Code** | **Activities and opportunities** | **Rate** | **Key areas** | **Inadequate info** | **Outline of activities (what exactly is being done?)** |
| SC1 | Student Environmental  Centre |  |  |  |  |
| CC2 | Career counseling focused on work opportunities related to environment and sustainability |  |  |  |  |
| ES3 | Environmental societies or other Student Group(s) with an environmental or sustainability focus |  |  |  |  |
| SD4 | Sustainability practices in residences or dormitories by students (e.g. recycling) |  |  |  |  |
| OP5 | Orientation programme(s) on sustainability for students |  |  |  |  |
| SA6 | Student environmental and sustainability awareness programmes |  |  |  |  |
| VS7 | Voluntary community service by students related to sustainability issues and concerns |  |  |  |  |
| SI8 | Involvement of student groups across campus in sustainability initiatives |  |  |  |  |
| SR9 | SRC involvement in environmental and sustainability initiatives |  |  |  |  |
| SM10 | Student collaboration with management in the area of environmental and sustainability |  |  |  |  |
| ES11 | Environmental and sustainability activities initiated by students themselves (independent of departments, lecturers, management) |  |  |  |  |
| SW12 | Students’ willingness to take responsibility in the environmental and sustainability area |  |  |  |  |
|  | Others (please specify): |  |  |  |  |
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1. USAT Part D. Policy and Written Statements

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| Unit-based Sustainability Assessment Tool  PART D  Policy and Written Statements  Part D of the Unit-based Sustainability Assessment Tool focuses on integration of sustainability in higher education policy and the degree to which such higher education policy is shaped according to national and global sustainability issues. It also considers the level to which institutional policies and written statements reflect mainstream sustainability issues, and the degree to which they show commitment on the part of the university to address national and global sustainable development agendas. According to ULSF (1999), institutional commitment to sustainability can also be expressed through written statements of the mission and purpose of the institution. Rate activities and opportunities in the environmental and sustainability area by completing the score sheet. Add a tick (✓) for key areas and where more information is needed; leave blank where the practices are non-existent. Briefly outline key activities in the area of sustainability. |

|  |
| --- |
| Assessment Criteria  X = Don’t know no information concerning the practice  0 = None there is total lack of evidence on the indicator  1 = A little evidence show poor performance  2 = Adequate evidence show regular performance  3 = Substantial evidence show good performance  4 = A great deal excellent performance |

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| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Practices** | **Rate** | **Key Area** | **Inadequate info** | **Elaborate on the situation** | **What can be done to improve the situation** |
| PH1 | The extent to which the country’s HE policy reflects an engagement with sustainability concerns |  |  |  |  |  |
| PN2 | The degree to which national and global sustainability issues inform decision making processes in HE policy and structures |  |  |  |  |  |
| PS3 | The level of support given to HE institutions on sustainability programmes |  |  |  |  |  |
| PE4 | Existence of sustainability/sustainability related policies at the institution |  |  |  |  |  |
| PR5 | Integration of sustainability issues in institutional policies |  |  |  |  |  |
| PV6 | Integration of aspects of sustainable development in university vision and mission statement |  |  |  |  |  |
| PC7 | Reflection of local sustainability challenges in policies and written statements |  |  |  |  |  |
| PG8 | The degree to which policies and written statements reflect national and global sustainability issues |  |  |  |  |  |
| PI9 | Implementation of policies of sustainability/sustainability related policies |  |  |  |  |  |
| PP10 | Plans to improve sustainability focus in the next policy review cycle |  |  |  |  |  |
|  | Others (specify): |  |  |  |  |  |
|  |  |  |  |  |  |  |

Appendix 2. Institutions that used the USAT

Table 2. A list of institutions that used the USAT and the contribution of the tool to institutional Change Projects

|  |  |  |  |
| --- | --- | --- | --- |
| COUNTRY | INSTITUTION | YEAR | CHANGE PROJECT AND WHAT THE USAT ENABLED |
| Bangladesh | Ministry of Education | 2012 | *Participatory approach as teaching-learning strategies for ESD in Higher Education (in Teacher Education):* The USAT was used to enhance the effectiveness of teaching and learning in teacher education. |
| Botswana | University of Botswana | 2011 | *Integration of ESD into Faculty of Education Modules: In Early Childhood Education (ECD) and Education Leadership and Management (ELM) programmes*: The USAT was employed to audit the courses at UB. This led to the curriculum revision of two curriculum modules. |
| Cambodia | Bright Hope Institute (BHI) | 2012 | *Sustainable Development course at Bright Hope Institute*: The USAT was used to assess the level of integration of ESD at BHI which informed the formulation of an action plan to re-orient the current curriculum in BHI by integrating sustainable development topics like climate change adaptation and environmental transition, and to conduct teacher training, academic research and to engage the local community |
| Egypt | Alexandria University | 2012 | *Development of the Household Management curriculum (Family Sustainable Development)*: Sustainability assessment was done using the USAT in the Home Economics department. This informed change in the content of courses and the development of new applied courses |
| Egypt | Sohaq University | 2012 | *Integration of SD in teaching curriculum in Sohag University*: A USAT review indicated the Change Project could enhance focus on SD and encourage innovation and engagement of stakeholders in curriculum review. This led to re‐orientation and update of the curriculum of some courses and the development of a new course with SD content. |
| Egypt | INSTITUTION:  Mansoura University | 2012 | *Developing the strategic plan of Mansoura University based on sustainable development*: A USAT review was done in the university and the results showed that sustainable development was neglected component in Mansoura University. This prompted institution‐wide discussion on ESD which resulted in the development of an institution wide ‘Strategic Plan’ for ESD. |
| Egypt | Helwan University | 2012 | *Infusion of SD concepts in the curriculum of the Tour Guidance Department at the Faculty of Tourism and Hotel Management*: An intensive USAT review was done and then the tool was used to develop applied ESD content and principles in five basic courses. The curricula in two departments have been revised and a strategy to continue revisions of the faculty curricula is in place. |
| Ethiopia | Bahir Dar University | 2008 | *Development of University mainstreaming process*: Following an assessment which employed the USAT, the results showed the need to enhance ESD content in teaching, the curriculum and research. This led to stronger institutional support for SD mainstreaming and integration of the ESD initiative into the development objectives of the institution. |
| Ethiopia | Wondo Genet College of Forestry and Natural Resources - Hawassa  University | 2011 | *Improve the rigour and relevance of Forestry Education with principles of ESD*: A USAT audit was undertaken and the results were used to discuss how to improve the relevance of Forestry Education. This resulted in the development of curriculum guidelines for lecturer orientation and guidelines for ESD at institutional level. An academic paper, though not directly based on the USAT, was published in the 2011 Southern Africa Journal of Environmental Education. |
| Ethiopia | University of Gondar | 2011 | *Development of university guidelines for integrating ESD into university curricula:* A USAT analysis of 5 Faculties was done and the results influenced the development of a draft document on ‘Guidelines for Integrating ESD into University Curricula’ to be followed by curriculum re-orientation. A sustainability unit was established and was mandated to take the ESD project forward in the university. |
| Ethiopia | University of Gondar | 2013 | *Strengthen sustainability unit and integrating sustainability issues into different research thematic areas in the university*: The USAT was used to review ESD mainstreaming in the research and community engagement processes of the university leading to considerations to integrate sustainability in the 20 university thematic research areas or to make sustainability one independent, additional theme. |
| Ethiopia | Bahir Dar University | 2013 | *Develop an ESD Module for the Post Graduate Diploma in teaching in Ethiopia*: Sections of Part A of the USAT (teaching and curriculum approach sections) were used to assess the extent to which environmental education was being included in the teacher education curriculum in 11 programmes. This led to a process to develop one core module that all teacher education students will take, and other small modules specific to each program. A decision was also made to initiate an ESD student club where students can be supported to do ESD activities. |
| Indonesia | Universitas Pembangunan Nasional "Veteran" Yogyakarta | 2013 | *Integrating ESD concerns into the curriculum of the Department of Agrotechnology*: The results of a USAT assessment in the department was used to investigate the status of ESD and the results showed poor performance in some aspects though ESD values were found to have been integrated in academic activities, research and community services. ESD concepts, values and concerns were then integrated in a number of courses in the curriculum of the Department of Agrotechnology: |
| Indonesia | GadjahMada University | 2013 | *Acceleration Program On ESD Integration Into Higher Education Curricula Of GadjahMada University*: Initial assessment of programmes using the USAT led to the integration of sustainable development in teaching and research and community empowerment. There is now commitment to accelerate the process into higher education curricula. |
| Indonesia | SepuluhNopember Institute of Technology | 2013 | *Creating a real eco‐campus through partnership among students, lecturers and staffs*: This change project was based on USAT Part B and Part C where the aim was to adapt the two parts and implement initiatives to green the campus. Also envisaged is the involvement of more students, lecturers and staffs in more universities into the project |
| Kenya | University of Nairobi | 2008 | *Re-structuring of courses in the Dept. of Agricultural Economics to include critical thinking and environmental focus*: A USAT audit of ESD practices across a number of departments in the Faculty of Agriculture indicated poor integration of environmental concerns in curricula. A need for sustainability integration was also identified in teaching, research, examinations, community engagement and assessment perspectives as well in developing capacity for critical thinking. A Certificate in Environmental and Agricultural Community Education to be offered by the University was developed. |
| Kenya | MasindeMuliro University of Science and Technology (MMUST) | 2012 | *Establishing a networked multidisciplinary ESD Community of Practice for sustainability engagements within and beyond the University*: A USAT audit showed low integration of environment and sustainability. Because of this, the focus of the project changed from the original aim to introduce a university-wide common course to focus on establishing new structures and networks for ESD first, and then to develop new policies and strategies so as to ensure more focused and coordinated action for greater ESD impact. Other options considered include greening the campus and community engagement. |
| Morocco | University Mohammed V Agdal, High School of Technology | 2013 | *Teaching capacity building based on interactive approach pedagogy, content and ICT*: The project is aimed at doing a sustainability assessment using the USAT. thematic workshops that will be based on the content of the USAT results will then be organised. |
| Mozambique | Catholic University of Mozambique | 2012 | *Integrating ESD in a BSc Agriculture Science and ensuring Green Campus at Catholic University of Mozambique*: All parts of the USAT were used to assess sustainability in the Faculty of Agriculture. Results showed the need for mainstreaming sustainability in the curriculum and for campus greening. The needs were categorised based on USAT indicators and action plans were put in place accordingly. Sustainability awareness improved the project hasn’t been completed. |
| Nepal | University Grants Commission | 2011 | *Environmental guidelines for sustainable development in Nepalese Higher Education Institutions*: The USAT was adopted and adapted to develop environmental guidelines for sustainable development relevant to Nepal for application in all Nepalese Higher Education Institutions with the intention was to empower universities and affiliated colleges in environmental policy linkage and quality issues and to have a Quality Assurance and Accreditation certificate awards linked to the environmental guidelines. |
| Nepal | Ministry of  Education  (National Centre for Educational Development) | 2011/  2012 | *Developing a Teacher Professional Development (TPD) manual with integrated ESD features*: The project was aimed at integrating ESD in the teacher training program after a USAT assessment showed low integration. This led to curriculum revision and training activities. Also envisaged were the development of an intensive Training Course on ESD and sustainable development to build capacity among school teachers, head-teachers and school management committee members including parents. |
| Philippines | Mapua Institute of Technology | 2011 | *Establishment of ESD Centre at Mapua Institute of Technology*: The Change Project was based on USAT assessment first in the College of Environmental Engineering, and later extended to other departments including electrical engineering. The results influenced the decision to put in place the following initiatives: a ‘Sustainable Development Research Office’; a sustainable development course, carbon footprint reduction measures and sustainability networks. In addition, plans were underway to host two sustainable developing conferences. |
| Rwanda | Kigali Institution of Education (KIE) | 2012 | *Improving the Teaching of Environmental Education at the Undergraduate Level in KIE: Efforts towards Sustainable development*: A sustainability assessment using the USAT showed that while aspects of sustainable development are referred to in modules, it was still necessary to practical ways to promote sustainability issues in teaching, research, and community engagement. The USAT enabled identification of a module with environmental content to integrate social and economic environmental aspects for a holistic approach. |
| South Africa | University of Cape Town | 2008 | *Development and expansion of environmental law offerings in the law faculty (Faculty of Law)*: A USAT assessment enabled identification of environmental initiatives on campus. This resulted in the modification of the original plan to develop a multi-disciplinary programme to integrate Environmental Law across faculties; to a focus on improving the breadth and opportunities for the study of Environmental Law in the UCT Faculty of Law. |
| South Africa | Nelson Mandela Metropolitan University (NMMU) | 2011 | *NMMU Student Mobilisation Project*: An adapted version of Part C was used as a foundation for the revival and formal registration of the Green Campus Forum through as a student organisation; and the initiation of an Agent of Change leadership capacity development workshop and a newsletter. The adapted version of the USAT is also used for continuous assessment through the project’s 5 phases. The process led to enhanced student engagement in sustainability issues on campus and in the community. |
| Sudan | University of Juba | 2008 | *Development of a policy document for the university on ESD in a post-conflict context (Department of Geography & whole university)*: A USAT analysis showed low integration of environment and sustainability in the university. Based on the findings, a decision was reached to develop a policy on mainstreaming sustainability into the university. However, the project was affected by other factors, he process raised environmental awareness. |
| Swaziland | University of Swaziland (UNISWA) | 2011 | *Systemic integration of environment and sustainability issues into different sub-disciplines in the Faculty of Commerce*: This project was linked to a whole institution assessment of sustainability using the USAT undertaken by the MESA implementation committee. The analysis showed low integration in in commerce. This led to initiatives like a workshop to develop a better understanding of sustainable development, staff capacity development in sustainability mainstreaming. In addition, the National Curriculum Centre has started developing textbooks that reflect ESD and the Ministry of Education and Training has prioritised ESD in its 2011 education policy. |
| Uganda | Mbarara University of Science and Technology | 2008 | *Development of materials and approaches to improve the relevance of science and technology teaching in the Education Faculty (Faculty of Education)*: An institutional USAT audit revealed relatively low levels of integration of sustainability issues in curriculum, teaching and research. Drawing on USAT findings, a framework for a course was developed with a focus on re-orientation of the methods to address community needs. Other initiatives include a lecturers training programme, an institutional workshop involving university management, staff, students and the wider community, an ESD sensitisation week. The USAT was also used to evaluate the intervention at the end of the process, showing a shift in awareness, willingness and knowledge of ESD. |
| Uganda | Makerere University | 2011 | *Integration of SD into the ‘Theory and Practice of Educational Administration’ and Management course outlines*: The USAT audit of different sub-disciplines in the School of Education showed poor integration of sustainability in all courses (the project was later narrowed to one course due to structural differences) and low sustainable development expertise among staff. This led to changes in course outline (enrichment) which increased student awareness and interest; and the designing of ESD Postgraduate Diploma, Masters Degree and short courses in the School of Education; and enhancement of community engagement. |
| Uganda | Nkumba University (NU) | 2011 | *Mainstreaming SD in disciplines within the School of Humanities and Sciences: Focus on Religious Education Programmes; Teacher Education Programmes; and Social Sciences*: A USAT audit in the above mentioned course led to curriculum changes in the courses, the development of a new course, and the establishment of a green foods project by students. There were plans for further community engagement projects, for the development of an ESD policy to guide on-going ESD mainstreaming. |
| Uganda | Busitema University(BU) | 2011 | *Mainstreaming ESD Principles And Practices In Teacher Education Programme (Bachelor Of Science In Education And In-Service Teacher Training Diploma)*: Based on USAT analysis results which showed low levels of sustainability integration in university programmes, and a lack of community engagement, a cross cutting course for the Bachelor of Science Education was developed. Community Engagement and student involvement were also looked into resulting in high motivation levels among students. A student Association already exist which is spear heading ESD activities in the Faculty but also linking with the community. |
| Uganda | Mbarara University | 2008 | *Development of materials and approaches to improve the relevance of science and technology teaching in the Education Faculty*: A USAT audit revealed relatively low levels of integration of sustainability issues in curriculum, teaching and research. This resulted in the development of a course intended to orient the methods to address community needs; a lecturers training programme, a multi-stakeholder workshop, an ESD sensitisation week, and other student and orientation related activities. The USAT tool was also used to evaluate the intervention at the end of the process, showing a shift in awareness, willingness and knowledge of ESD. |
| Vietnam | University of Natural Science | 2011 | *Integrating ESD In University Of Science:* The USAT as slightly modified and used within the university. It was found the Schools of Environmental Science and Material Science are paying more attention to SD than other faculties. Project outcomes include modification of teaching methods and integration of ESD concepts in teaching and research; improved students participation and enhanced awareness of community awareness of sustainability issues. |
| Zambia | National Institute of Public Administration | 2008 | *Training of Trainers on development of modules on sustainable development to integrate into current public administration programmes*: Findings of a USAT audit indicated low integration of sustainability issues in courses, administration, management and teaching practice. As a result, a decision was made to focus on staff development and to incorporate this into the Strategic Planning of the institution. This led to the development of a framework for a module on Principles of Sustainable Development with plans to run it in two of the NIPA programmes before rolling it out into other NIPA programmes. |
| Zambia | University of Zambia | 2011 | *Mainstreaming sustainability concepts in the proposed new MSc. Environmental and Natural Resource Management (ENRM) Programme*: A departmental USAT audit was undertaken; revealing that efforts to integrate sustainability were patchy and poorly connected. This led to integration of sustainability concepts into 5 of the core courses on the MSc ENRM. The project also enhanced awareness of ESD in the department. |

Source: Agbedahin and Lotz-Sisitka (2014)

1. Type II partnerships were outcomes of the World Summit and involve governments, NGOs and businesses. 283 Type II Partnerships were announced at the WSSD and approximately 12 of these are focused on education for sustainability (Clugston & Calder, 2002). [↑](#footnote-ref-2)
2. GHESP is no longer operating as its term of operation expired at the end of 2007 (ULSF, 2002). [↑](#footnote-ref-3)
3. ULSF also serves as the Secretariat for signatories of the Talloires Declaration, a ten-point action plan committing institutions to sustainability and environmental literacy in teaching and practice. Over 350 university presidents and chancellors in more than 40 countries have signed the declaration. [↑](#footnote-ref-4)
4. Phase 1 (2004-2007): Establishing and piloting of the MESA Universities Partnership Project in 15% of African Universities; Phase 2 (2007-2010): Consolidation and strengthening of MESA Universities Partnership Project activities in 30% of African Universities; and Phase 3 (2011-2014): Expansion of the MESA Universities Partnership to 60% of African Universities (UNEP, 2007, p. 1). [↑](#footnote-ref-5)