Draft Report: Comparative analysis of the audit studies of RISU and MESCA

Prepared by UNEP/ Regional Office for Latin America and the Caribbean (February 2016)

Background

The 2030 development agenda includes sustainable development goal 4 "to ensure inclusive and quality education for all and promote lifelong learning." More specifically the target 4.7 states "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development." (UNDP, 2016)

In order to achieve the aforementioned goal and especially the target 4.7 universities play a major role. Historically, they have always been major drivers for socio technical transformations. This role as change agents is also applicable when it comes to the challenges that our society faces on the transformation towards a sustainable society. UNEP, through the creation of GUPES (Global University Partnership and Sustainability) back in 2012, has promoted the integration of environment and sustainability –related concepts within the scope of the university. As a result of this work and among other lines of action, publications have been developed, such as "Greening Universities Toolkit" (UNEP 2013), which aimed to foster the transition and integration of sustainable practices.

In Latin America and the Caribbean (LAC) different projects have been supported in the region. Those initiatives aimed at identifying the state of the art regarding the adoption of sustainability policies and environmental management practices across the universities of the region. Among those, two projects can be distinguished. On one side, the RISU project (2014) coordinated under the Alliance of Latin American Universities for Sustainability and the Environment (ARIUSA in its Spanish acronym) which was a study developed across universities in multiple countries of Latin America, involving ARIUSA and its associated university networks. On the other side, the Mainstreaming Environment and Sustainability in the Caribbean (MESCA) University Partnership (2011) developed specifically for English speaking universities in the Caribbean and managed by the University of the West Indies, School of Education, Mona, Jamaica (UWI).

Both projects, RISU and MESCA, were the first ever sub-regional attempt to analyze in a broad sense the scope of sustainability practices within universities. This was achieved through the use of a wide range of assessment indicators that covered multiple areas of the university such as, sustainability policy, social responsibility, operations, and academic activities.

The objective of this report is to compare and analyze methodologies and audit tools used in MESCA and RISU projects. For that purpose the content and focus of the indicators used in each of the audit tools will also be compared. Finally, the results from both projects will also be analyzed in order to reevaluate the state of the art in both regions and to look for synergies that can be useful for one another.

Comparative of the rationale, scope and methodology

Rationale of the Studies

Both projects born with similar objectives, i.e. the determination of the state of environmental and sustainability policies and practices within the participant universities. Furthermore, both studies aim to serve as the basis for the development of future measures and action plans in the participant universities.

However, RISU includes more ambitious objectives such as strengthening the partnership and the existing work in the Latin American network of universities for sustainability (ARIUSA). Another objective is to serve as the basis for the training and education of the professionals that will be capable of the implementation of an indicator system to evaluate environmental policies and strategies at their own universities.

The MESCA audit provided important key findings and recommendations for the participant universities providing a baseline for future assessments. However, the limited number of universities taking part of the study and the differences on the answers make it difficult to compare and assess sustainability practices in the Caribbean region.

In the case of RISU, the study has mostly full filled the proposed objectives, establishing an analysis framework that allows further changes and where universities have space for further improvements. Moreover, it is confirmed that most of the universities have created improvement processes taking the questionnaire as a basis. Participants have also been allowed to acquire new knowledge regarding sustainability strategies. Finally, this project is developed in two phases, being only the first phase the object of this analysis.

Geographical scope of the studies

The MESCA Project originally pretended to involve 11 key universities within the audit study; 7 universities coming from 3 islands in the English Caribbean, 1 university from Haiti, and three universities located in Central America. However, for different reasons only 6 universities took part on the study; 5 from the English Caribbean (1 from Trinidad and Tobago, 3 from Jamaica and 1 from Barbados) and the University of Belize.

In the case of the RISU Project the number of universities participating of the study raises to 65 across all Latin American. These universities come from 10 different countries in the region; Argentina, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Guatemala, Mexico, Peru and Venezuela. The number of universities represents approximately a 6% of the 1100 universities that can be found in the region. Among the participant countries Mexico, Brazil and Chile include the biggest numbers of participants.

It seems clear that RISU project includes the largest number of participating universities and also the largest variety of countries involved. Although the number of universities participating in MESCA audit is lower, it should be highlighted the importance of the participating universities within the region.

Methodology used in the studies

Both projects are based on tools and indicators previously used in other projects around the world. Before conducting the studies in both cases meetings were held to develop the content of the tool, mainly selecting and adapting the indicators for the specific conditions of each region.

MESCA:

In this case the tool is based in the one developed by MESA (Mainstreaming of Environment and Sustainability in African Universities) and it is adapted to the region (Togo & Lotz-Sisitka, 2009). The methodology of the study comprehends an autoevaluation questionnaire that each of the involved universities is responsible for its completion. Each of the indicators in the questionnaire is answered using a Likert Scale of 5 values that go from 0 (there is no evidence of the indicator) to 4 (Excellent Performance), including also the possibility of answering with an X (Lack of knowledge regarding the existence of that indicator). Finally, in each indicator of the questionnaire a space is offered to leave comments that can be used to later justify the valuation given.

Structure of the MESCA questionnaire:

A total of 71 indicators divided in 3 sections, A (Teaching, research and community), B (Management and Operations) and C (Students). Each of these sections has different subsections that group multiple indicators (See Table 1)

The first section (Teaching, research and community) is targeted to faculties and departments forming the university, people working on each of these are the ones supposed to answer the questionnaire.

The second section (Management and Operations) is targeted towards administration and towards the management of the universities. In multiple cases this section is answered by different people.

Finally, the third section (students) is supposed to be answered by the students of each of the universities. The questionnaire is supposed to be sent to a small sample of students.

RISU:

In the case of the RISU project, the list of indicators was defined between the partners of the project based on the indicators used in the study for sustainability policies in Spanish universities developed in 2011 by the Conference of Spanish University Provosts (CRUE in its Spanish acronym). The original questionnaire (2011) contains 175 indicators.

Structure of the RISU questionnaire:

The study uses an auto evaluation questionnaire to be completed by each one of the participant universities. In this questionnaire 114 indicators are included. Those are grouped in 5 main groups (Sustainability policies, Social Responsibility, Teaching,

Research, and Management) and then they are subdivided in 11 different sections (See Table 1). (Saenz, 2015)

Each of the indicators refers to a given statement that has to be answer with an affirmatively or a negatively, with the exception of a few indicators where an intermediate choice is provided. Finally, the questionnaire has another question that has to be answered in the cases that the answer provided is negative. In this second level it asked if there is any plan for the next 3 to 5 years to implement the requirement asked in the indicator, this second level has to be answered by a person with high responsibility within the university.

Table 1 Indicators and structure used in RISU and MESCA questionnaires

MESCA Indicators	RISU Indicators
Group A : Teaching, Research and community: (24 Indicators)	Total of 114 indicators :
- Curriculum (8)	Sustainability Policies
- Teaching approach (3)	- Sustainability Policies (15)
	- Awareness and Engagement (12)
- Teaching resources (3)	Social Responsibility
- Service activities (3)	 Environmental and Social Responsibility (10)
- Staff expertise & willingness (3)	• Teaching
Group B: Management and Operations of the	- Teaching (13)
University (34 Indicators):	• Research
- Human Resources (6)	- Research and Transference (13)
- Buildings and Grounds (3)	• Management
- Waste Management (5)	- Urbanism y and Biodiversity (7)
- Energy Management (3)	- Energy Management (10)
- Water Management (3)	- Water Management(10)
- Financial Aspects (3)	- Mobility (8)
- Public Engagement (2)	- Waste Management (11)
- Diversity (3)	- Responsible Procurement (5)
Group C: Students (13 Indicators):	
- Student Life (4)	
- Student Organizations and Governance (4)	
- Student Learning Outcomes (5)	

Results comparative of the indicators

Organizational Indicators including policies and CSR

MESCA (20 Indicators)	RISU (37 Indicators)
Planning and Coordination (6)	Sustainability Policies (15)
Human Resources (6)	Awareness and Engagement (12)
Public Engagement (2)	Social and Environmental Responsibilities
Diversity (3)	(10)
Service Activities (3)	

Table 2 Organizational indicators in the universities

When it comes to organization and policies the indicators from the RISU project offer a wider and more complete perspective of the situation in the participant universities. The MESCA indicators do not provide any references regarding existing documents on sustainability policies. The indicators focus more on the extent to which university policies (mission, vision, strategic plan...) integrate sustainability concepts. In comparison, the RISU indicators are more specific on the existence of formal documents regarding environmental and sustainability policies, while also addressing the integration of both concept on the strategic plans of the universities. It should be noted that the original audit tool used in the MESA project, in which the MESCA tool is based, included a section dedicated to sustainability policies and formal documents (Togo & Lotz-Sisitka, 2009)

The human resource indicator included in the MESCA project focus mainly on the training and learning of the employees on sustainability and environmental matters. Although RISU does not reflect any specific indicator for human resources, in different sections (for example in "teaching, and awareness"), it includes indicators that aim to determine if the universities are offering some type of training to university staff on sustainability. Thereby, there similarities can be appreciated between those indicators and the Human Resources chapter at MESCA.

Diversity is another social aspect that it is clearly reflected in the indicators of both studies. Including gender equality, addressing the needs of disadvantaged groups and students with low incomes. All these aspects are of key relevance within the social perspective of sustainability. Equally, both RISU and MESCA include indicators to understand and estimate the engagement and involvement of universities through volunteering and service provision to the local communities.

Teaching and Research Indicators

MESCA (21 Indicators)	RISU (26 Indicators)
Curriculum (8)	Teaching (13)
Teaching Approach (3)	Research and Transference (13)
Teaching Resources (3)	
Expertise and willingness of the staff (3)	
Research and scholarship (4)	

Table 3 Teaching and Research Indicators

Both studies address the educational content and curriculum offered within the offered masters and bachelors. Furthermore, both also seek to determine the extent to which sustainability is integrated in the different courses, even in degrees that are not directly related with it.

MESCA and RISU have indicators for the training and personal development of the university staff in sustainability. However, MESCA's audit includes indicators to understand and determine the extent of expertise and knowledge of the professor of the different departments have in sustainability matters.

RISU's report mentions competences and basic capacities on sustainability without specifying which ones. On the other hand, MESCA is more explicit as it indicates certain capacities in "teaching approach" section. For instance, there is a reference to the development of the critical thinking of students, multicultural aspects, respect for each other's opinions, and the capability for problem solving (especially locally).

Similarly to teaching, research also provide similar indicators. Both reports have indicators that seek to know if the universities have research in sustainability or environmental subjects in some of its departments. Moreover, both reports reflect indicators regarding collaboration with public institutions or with the private sector on those research projects, both nationally and internationally. Other shared aspect is the explicit reference to the available funding for sustainability research.

Regarding research and transference only RISU's indicators aim to understand the extent to which the research is disclosed to the public. Moreover, it is explicitly mentioned the use of Environmental Management Systems in some of the campus department buildings and laboratories.

In conclusion, the MESCA indicators are more specific regarding teaching than the ones in the RISU audit. However, on the research area RISU includes aspects like disclosure and impact of the research, which are not mentioned at all in the MESCA audit. It is also important to notice that the teaching indicators in MESCA have a high influence in the overall report, as students' perspectives regarding learning outcomes are also included later in the questionnaire.

Management Indicators

MESCA (17 Indicators)	RISU (43 Indicators)
Buildings and Grounds (3)	Urbanism and Biodiversity (7)
Waste Management (5)	Energy (10)
Energy Management (3)	Water (10)
Water Management (3)	Waste (11)
Financial Aspects (3)	Responsible Procurement (5)
	Mobility (8)

Table 4 Management Indicators in the universities

Regarding university management both include very similar areas like waste, energy, water and management of urban areas, and financial aspects. However, the biggest difference between RISU and MESCA indicators in this section is the concreteness of those. On one hand, the MESCA indicators, especially in the water, ground, and energy subsections, are rather intangible and difficult to evaluate and interpret. On the other

hand, RISU's indicators reference explicitly to documents, strategies, and specific organisms or individuals responsible within those areas, making it much easier to evaluate each one of them more objectively.

Indicators only used in one of the studies

MESCA:

One of the singularities of the MESCA audit report is the section dedicated to the students. This section seeks to determine initiatives, organizations and learning outcomes of the students. This way is possible to evaluate if the results associated with the teaching section are being reflected onto the final addressees, the students. In this section the extent to which students develop sustainable lifestyle is referenced, especially to understand if there are student organizations that take part of the sustainability policymaking within their universities. However, the study does not go too deep into the actual students' lifestyles or into the outcomes of the learning process.

RISU:

On the other hand, the RISU Project also presents a variety of indicators that are unique. Those are the ones referring to mobility, such as the reference to strategies that promote the use of sustainable transport systems within and towards the campus. In MESCA this topic is not addressed, although there is a small reference to the use of shared vehicles between the management indicators. Biodiversity appears as another aspect that is not reflected directly in the MESCA report, as the only reference to it is the "Sustainable Landscaping" indicator within "Buildings and Grounds" section.

Results: Comparative of the studies' results

Results of MESCA audit:

Among the positive outcomes *s*ustainable landscaping is a practice that is seen as rather commonly among the universities participating of the study.

Another indicator that appears to be positively evaluated in most universities is the capability and willingness of the teaching staff and also the participation of the departments in activities related with sustainability. Those are aligned with the fact that the introduction of sustainability concepts in some of the courses is also a quite common indicator. However, it is not detailed until which extent.

Finally, at single university level, one of the most promising initiatives seen is the community service and activities provided by the Northern Caribbean University in Jamaica (NCU), probably originated from its small size and its religious origins.

On the negative side, human resources appear as the worse valued section of the audit, which appears to be a common among the universities. Similarly, financial aspects are also below the medium valuation of the audit. Furthermore, financial aspects are seen as the main obstacle for the development of projects and initiatives that could contribute to sustainability in participant universities.

Results of RISU audit:

The RISU results are quite moderate in all the aspects, being 6.1 over 10 the highest medium obtained by any of the 11 sections of the audit. This section is Social and Environmental Responsibility section. Other sections that got the pass are the Sustainability policy (5.4), Awareness and Participation (5.0) and Waste Management (5.3).

When it comes to the results individually, some participant universities (unknown with the available information) have obtained high punctuations in each of the section except in the mobility area (maximum of 6.9). This indicates that in most of the cases there best practice case studies that can aid with the promotion of sustainability policy and practice development in other universities within the ARIUSA network.

On the negative side, the indicators that are worse positioned are the Responsible Procurement (2.2), Mobility (2.9), water management (3.5), Research and Transference (3.6), and Energy Management (3.7). Curiously, with the only exception of the Research and Transference indicator the rest are encompassed on the Management category, from which the only one gaining a passing grade is Waste Management. This aspect is shared with the MESCA project, where management aspects are the worse valued of the study.

Analysis and Discussion

	MESCA	RISU
STRENGTHS	 Teaching indicators are very complete with high specific weight in the audit. The statements include specific skills related to sustainability and tightly related to the SDG 4 "Education quality" (UNDP, 2016) Provides many different sources of information for data collection, including the student perspective. 	 Standardized data collection with strong and valid results from the questionnaires. Strong use of quantitative data collection and analysis. The project seem to fulfill most of the initial objectives, especially the two main ones (define a framework for the analysis and evaluation, and train university staff to apply those indicator systems)
WEAKNESSES	 Some indicators are quite abstract and leave a big room for interpretation to the respondent. Subjective responses through a Likert scale. There are differences between the data collection and data sources used by the participant universities. 	 The use of Yes/No approach simplifies the questionnaire, many aspects can be left out. Some indicators might trouble due to the language used, as universities from different countries and with different varieties of Spanish have been involved.

Table 5 Strengths and Weaknesses of the studies' methodologies and indicators

Table 6 Positive and Negative of the studies' results

	MESCA	RISU
POSITIVES	• Strong results on teaching approach and those results are also supported by the students.	 Positive results on individual basis, can allow for future work on best practice study (similar to the second stage of CRUE's study). Strong results on Social Responsibility and Sustainability policies.
NEGATIVES	• The results from the organization and management sections are quite low.	Weak results on management and research groups on the questionnaires.

One of the weaknesses and also one of the biggest differences between the two studies is the methodology used in the reports and the data collection. Both approach the study through a quantitative research, using an auto-evaluation questionnaire. On one side, MESCA study has a more subjective approach, as the answers to the indicators are provided using a Likert scale (5 points), while in RISU answers are provided marking a Yes or a No. Also, the statements in some of the indicators of MESCA are quite abstract, which leaves a big room for interpretation to the respondents.

The other difference is the data collection, in RISU this has been coordinated by many university networks in the region, but it has followed a systematic methodology. This allows the results to be compared between the 65 universities participating of the study. On the MESCA case, there are big differences on how the participant universities have conducted their data collection. For instance, University of Belize has coordinated all the questionnaire answers through the Academic Council, while in UWI the first part has been answered by academic Heads of Department and lectures, the second part by university management and the final part by students. This different data sources and data collection methods might influence the final results, which makes it difficult to compare results among participant universities.

The results of both studies point towards a similar direction. In the case of MESCA, teaching related indicators have the highest marks both when looking at the teachers' and students' perspectives. Community service activities are also mentioned as one of the strengths of MESCA universities. In the RISU teaching indicators are among the highest together with sustainability policies and socio environmental responsibility. On the negative side, both punctuate as lowest in management related indicators.

Conclusion

Last conclusion wrap up

The results of the two pioneer projects have proven valuable for the participants assessing and reflecting upon their sustainability practices. Both studies include an extended and comprehensive set of indicators, ideal to provide a wide perspective on the adoption of sustainability policies and practices in the participant universities. Although the projects might have some differences on the method, scope and indicators used, the baseline results obtained could serve as the basis for developing a common space for reflection and discussion, further promoting the adoption of sustainability practices in Latin America and the Caribbean.

The 4.7 targets within the Sustainable Development Goal number 4 "Education Quality" by 2030 can only be achieved understanding the importance of assisting universities in integrating sustainability into campus operations, governance, policy and administration, teaching, and research. In some cases, participant universities networks and alliances (MESCA and ARIUSA) can lead by best practice examples supporting the work of other universities in the region.

Recommendations

To be completed

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