Sustainable Development in Universities – The power and role of visions and goals

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Background

Universities in Sweden are since 2006 based on a government decree instructed to work with sustainable development. Recent studies on progress for Sustainable Development indicate that change is relatively slow and that most of the activities could be labelled: Business as usual. One apparent challenge is to understand what Sustainable Development means and consequently what needs to be changed compared to current performance. Visions and long range goals are important in any change work and should consequently also be important in the work for sustainable universities. Interesting questions are how visions and long range goals are defined in universities and to what extent they support work for Sustainable Development.

Purpose

The general purpose of the study is to see how universities could work for Sustainable Development and to find out areas of further improvement. The specific research questions in this study are:

- How could university work with sustainable development be characterized in education and research?
- How are visions and goals for Sustainable Development described by universities?
- How could visions and goals be improved in order to better support change towards Sustainable Development?

Methodology

Swedish universities are chosen for the study. The reason for this is that Swedish law since 2006 explicitly requires universities to work with Sustainable Development. This means that we can choose a random sample from the total Swedish university population and look at the interpretation of work for Sustainable Development. We use common definitions for Sustainable Development and compare them with university missions and directives from the Swedish state to answer the question how university work for Sustainable Development could be characterised. We identify typical definitions for what is required for a vision and for goals. These definitions are compared with the university interpretations as per web-sites and from individual views.

Main results

A review of how Sustainable Development is presented in the Swedish University world.

Keywords

Sustainable Development; Vision, Goals, University sustainability.

Paper Type

Research paper.
Introduction

Sustainable Development (SD) is a concern for everybody and major changes concerning technology, behaviour and politics are required. Highly educated labour is expected to contribute solving many of the pending SD problems. Global heating (instead of the cosier sounding warming) is an example of an urgent problem. There is a common understanding that drastic reductions of carbon emissions need to start within the next 10-15 years to achieve a global reduction of some 80% until 2050 compared to 1990 figures. This reduction should take place while simultaneously increasing the GNP. Johnson & Isaksson (2010) estimate that value produced per ton of carbon oxide emitted has to go from about 2000 Euro/t to 50 000 Euro/t in order comply with a 80% reduction in emissions while having a 4% annual growth required to solve poverty problems. This requires major changes in multiple areas. Technological innovations need to be complemented with economic and political changes.

This indicates that major changes are also needed in university education. Global Heating might be one of the most serious problems, but there are a number of other similar issues: world poverty; starvation; depletion of the world’s fisheries; water scarcity; and loss of biodiversity. Rockström & al (2009) identify nine planetary boundaries that need to be respected to assure that humanity can operate safely. Climate change is mentioned as the first of these. To sum up there are multiple signals that Business as Usual is not being an option. The World Business Council of Sustainable Development (WBCSD) depicts in “Vision 2050 – The New Agenda for Business” a few scenarios why Business as Usual is bad for everybody including business, (WBCSD, 2010). Drastic changes require innovative rethinking which logically should also apply to universities. It could even be expected that universities would be in the lead in terms of supporting innovative thinking. Higher education, and thus universities, has an essential role in advancing the understanding of SD requirements, and providing society and industries with competent SD employees (Fien, 2002). Agenda 21 and the Johannesburg summit in 2002 identified a global need for more equal dissemination of the knowledge about sustainability. Shifting environmental education practice towards TBL education about and for SD is a major national and global challenge (Tilbury, 2004).

A Swedish government decree states that SD is an overall objective of all Swedish Government policies (Comm. 2005/06:126), declaring a Triple Bottom Line (TBL) (Elkington, 1998) vision of SD. The vision stems from a global long-term vision of SD and is related to international decrees and initiatives (c.f. United Nations and European Union). The environmental, social and economic dimensions of SD are expected to be pursued in a coherent manner by all Swedish public authorities and actively influence and shape all policy areas (Comm. 2005/06:126, page 9), including the universities. This, of course, also is reflected in the university decree (chapter 1 § 5 Högskolelagen 1992:1434), stating that Swedish universities, through their activities shall promote a SD that ensures that both the present and coming generations are guaranteed a sound environment, economic as well as social well-being and justice. Thus, the apparent interpretation is that Universities in Sweden should play a central role by providing competence and research which is relevant for SD.

Changing universities from current non sustainable practices to the sustainable university is a huge change management task. To create the appropriate strategy both the current situation and the vision and goals should be known. For the vision to work it needs to comply with common requirements for a vision and it must also be translated to goals which can be understood and worked with. This papers aims at defining how the visions and goals for Sustainable Development have been defined by universities and to what extent they act as drivers for change. The research questions in this paper are:
How could university work with sustainable development be characterized in education and research?
How are visions and goals for Sustainable Development described by universities?
How could visions and goals be improved in order to better support change towards Sustainable Development?

Methodology

Sweden is taking pride of being one of the few countries where carbon emissions have been reduced while GNP has continued to increase – this could be a sign that decoupling economic development from carbon dioxide emissions is possible. With SD being a prioritized issue in Sweden it could be expected that Swedish universities would set good examples within different areas related to SD and that they would work with the TBL.

We use common definitions for Sustainable Development and compare them with university missions and directives from the Swedish state to answer the question how university work for Sustainable Development could be characterised.

We identify typical definitions for what is required for a vision and for goals. These definitions are compared with the university interpretations as described in official documents and as defined by persons closely related to the sustainability work in universities. The components of the proposed vision and goals structure are organised using the structure in the draft assessment instrument for Sustainable Development in Higher Education, (AISHE 2.0, 2009). This provides a clear and logical division in campus and the activities related to the university mission of education, research and support and co-operation with society. With additionally apply the structure of SMART goals to review the goal quality, for SMART see for example Bergman & Klefsjö (2010).

We have interviewed six persons active with Sustainable Development in Sweden for their ideas on how a sustainable university should look like. These persons have been chosen from those active within Sustainable Development and university work. Most persons have been identified through HU2-network (www.hu2.se) working for Sustainable Development in universities. We have also posted a web-questionnaire using the HU2-network. Six replies on the question of how the university vision for Sustainable Development should look like have been received. The structure of the interview as well as of the web survey was as follows:

1. How does your vision of a sustainable university look like?
2. And, more specifically how do you see this in relation to education, research and co-operation with society?
3. How could this vision be exemplified when viewing your university and the region it is situated in?

Manual notes were taken during the interviews and notes were then sent to the interviewee for a check. Five out of the six interviewees responded with some minor modifications. The time for the interviews was 1 to 1.5 hours. This is a first iteration and we believe that in spite of the low number of answers we have enough information for a first indication of a vision seen from a practitioner’s point of view. Qualitative analyses of the answers have been carried out and compared with what could be expected of a vision for Sustainable Development.

We have also studied visions and goals from benchmark universities. The identification of benchmark universities in Sweden has been carried out in connection with the interviews and
work within the HU2 network. For Sweden Gothenburg University is chosen as the benchmark. They have a long tradition of work with environmental and sustainability issues. The university is one out of three having an ISO 14001 certificate and the only one doing a report based on the Global Reporting Initiative guidelines. The international benchmarks are chosen based on those that Gothenburg University has chosen. They have the intention to compare themselves with the best in the world. Additionally Mälardalen University and Blekinge Institute of Technology have been reviewed as good examples that have been mentioned in discussions with people active within the HU2-network. The answers are categorised using the previously defined structure for visions and long range goals. This provides the proposed answer for how universities describe visions and long range goals for Sustainable Development.

The review of benchmarks and data collected in comparison with how visions and goals should be expressed reveals a number of gaps which are analysed. These analyses form a basis for proposed improvements.

**Sustainable Development in Universities**

The Brundtland commission definition from 1987 states that: *Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs* (WCED, 1987:43). This definition is the one also used by the universities studied and is the foundation for the university law. Swedish universities have the missions of carrying out education based upon scientific knowledge and carrying out research. The earlier so called third task requiring co-operation with society is now integrated in both education and research. Chapter 1 § 5 in the Swedish University Law (Högskolelagen 1992:1434), states that Swedish universities, through their activities shall promote SD that ensures that both the present and coming generations are guaranteed a sound environment, economic as well as social well-being and justice. The interpretation is that universities should have education and research of what Sustainable Development is but also carry out education and research for Sustainable Development. This differs from the teaching of many topics where no action and not taking any position are required. The interpretation here is that universities should be change agents for SD.

A sustainable university should relate to the main sustainability aspects both globally and regionally. We would expect that vision indicates how work for reducing carbon emissions and reducing world poverty is carried out and also how regional sustainable development is supported. Goals based on the vision should be such that major change is achieved within the next 10-20 years. Many problems, such as the curbing of carbon emissions, need to be solved within the next 10-15 years to avoid the risk of uncontrolled heating. The “safe” temperature increase is set at 1.5-2C above the historical average. This means that the sustainable university should have challenging visions and bold objectives for drastic change to provide the competence for all the challenges humanity is confronting. After all, it is the generation receiving their education now that will have the responsibility for major change towards sustainability.

The AISHE2-instrument suggests dividing the assessment of sustainability in five parts which are operations, education, research, society and identity. See Figure 1.
The Identity module contains the elements vision & policy, leadership, communication, expertise, coherence and transparency & accountability. These could be seen as core values (expressed by vision & policy) and other enablers. The elements of Identity support the different activities within operations, education, research and society (co-operation with). With a clear and well communicated vision and with SMART goals a university gets the required support for the different operative areas.

Combining this with what was previously said about visions and goals the interpretation is that the university working with Sustainable Development would have visions and goals for operations, education, research and co-operation with society (relating both to education and research).

The vision & policy criterion from AISHE 2 states: “The organization has a vision on sustainable development and on corporate social responsibility in general, on aspects within the own fields of expertise and on the consequences of this for the organization policy. The vision is expressed in the policy. This policy translates the vision in concrete plans for action. Goals are formulated, and activities are designed aiming to realize these goals.”

Additionally the vision should be as described by Bergman & Klefsjö (2010) below.

**Vision, mission long range goals and strategy**

A vision should according to Bergman & Klefsjö (2010) be:

- Able to inspire and create a visionary picture of future
- Desirable
- Clear *(which means that is should be easy to break down into objectives - authors’ comment)*
- Flexible
- Easy to communicate
- Stable
A vision requires a mission. The Swedish university mission is defined as carrying out basic education based on an academic foundation, carrying out research and co-operating with society within both education and research. A vision should specifically be backed up by objectives, goals and strategies for education, research and co-operation with society. There should also be action plans and there should be practical results that motivate people to continue change work. A good vision without any clear goals is not a good vision, but most likely an effort of marketing only; indicating a gap between espoused and enacted views (Argyris, 1990). Here, we will focus on how the vision is clarified with goals, defined as SMART-goals (Specific-Measurable-Accepted-Reasonable-Time set) (Bergman & Klefsjö, 2010). Good change management requires that the current state is well assessed and that the vision is clear enough for defining goals. In the ideal situation the vision can be broken down into SMART goals down to the level where they make sense to everybody.

Using the AISHE2-classification in Figure 1 the vision should relate to the building and premises and the three parts of the mission. Additionally there should be a set of guiding values and principles that underpin the SMART-goals. Schematically this could look like in Table I.

Table I. Proposed schematic structure of SMART-goals for Sustainable Development with focus on global heating and the university. The Content of the table should be seen as an example only.

<table>
<thead>
<tr>
<th>Area of vision</th>
<th>Specific</th>
<th>Measurable</th>
<th>Accepted</th>
<th>Realisable</th>
<th>Time-set</th>
</tr>
</thead>
<tbody>
<tr>
<td>University building and premises</td>
<td>Carbon neutral</td>
<td>yes</td>
<td>?</td>
<td>yes, provided funding</td>
<td>Within ten years</td>
</tr>
<tr>
<td></td>
<td>Recycling all waste</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>Within two years</td>
</tr>
<tr>
<td>Education</td>
<td>SD included in all education</td>
<td>?</td>
<td>yes</td>
<td></td>
<td>Within five years</td>
</tr>
<tr>
<td>Research</td>
<td>SD included in all education</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Co-operation with society</td>
<td>Co-operation to include SD and carbon emissions when relevant</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

How visions and goals are defined in benchmark universities

Gothenburg University has been studied as the main Swedish benchmark. The 2010 sustainability report has been used as main source (Hållbarhetsredovisning, 2010). There is no explicit policy for sustainable development but instead one for environment.

Gothenburg University will be one of the leading universities in Europe in education and research within sustainable development and environmental sciences

There is no explicit vision of the sustainable university. The University vision 2020 is under work and some preliminary documents are presented. There is no clear indication of the role of Sustainable Development in this. The university is ISO 14001 certified and is part of Global Compact and reports according to the Global Reporting Initiative guidelines (world leading system on sustainability reporting). Courses are also marked with a sign if they
include SD. Goals are given for education, research and co-operation with society and there are also goals for climate effects, use of resources, chemicals and competence development:

- **Education** - Gothenburg University (GU) shall integrate SD in education
- **Research** – GU shall increase research within SD
- **Co-operation** - GU shall offer the surrounding society with at least one public activity per day
- **Climate effect** – GU shall reduce its emissions of gases affecting the climate and reduce energy consumption in university buildings
- **Resource use** – The purchasing of GU shall be an example for other universities for the dimensions of economy, environment and social responsibility; All waste from university shall be sorted based on the existing plan
- **Chemicals** – GU shall reduce the use of dangerous chemicals and products
- **Competence development** – All personnel must know how they can contribute to SD in their area of responsibility

The explicit goals constitute a clear commitment. On the other hand they are not fully SMART since they are not Specific (integrate, increase, reduce) and not Time set.

Blekinge Institute of Technology (BTH) has a vision that states:

* BTH is a globally attractive community of knowledge within applied IT and innovation for sustainable growth. *

There is no sustainability policy but instead an environmental policy. Sustainable development is described in another document with reference to Brundtland and the Triple Bottom Line. However, it was not possible from the overview to see how sustainable growth is defined. There were no obvious links to goals.

Mälardalen University has a policy for SD referring to Agenda 21 and the Triple Bottom Line (excerpts translated from Swedish).

* ...this is interpreted as a responsibility in giving employees, students and other partners increased knowledge in order to enable them to analyse and prioritize actions that take into consideration several of the sustainability dimensions. Actions are carried through education, research, running the campus and in contacts with society. The university shall work for local, regional and global networks that promote education and research for SD. Co-operation shall take place with business and other sectors.*

Specific goals are not visibly mentioned. The University is certified for ISO 14001.

Harvard and Stanford have by Gothenburg University been mentioned as international benchmarks.

A brief search on the Harvard web-site gave no hits for policy in SD. The search for an environmental policy only leads to a description of the organisation for environment and health. There is a mention of campus sustainability:

* University Operations Services (UOS) is a leader in sustainability. The nature of our programs and services allows us a unique opportunity to improve the environment, and it’s something we are deeply committed to doing.*
Student involvement in the UOS is mentioned. It is unclear based on the web-site to what extent SD is part of education and research.

Stanford has like Harvard a commitment to a sustainable campus:

*Sustainable Stanford is a university-wide effort to reduce our environmental impact, preserve resources and show sustainability in action. We’re determined to lead in researching, teaching and practicing environmental sustainability. Our vision: create a healthier environment now and richer possibilities for generations to come.*

A brief search for environmental and SD policies gave no hits. A more extensive search might change this. However, with a similar effort the documents were found in the Swedish universities.

From the brief review of proposed benchmark universities it seems that Gothenburg University is the one providing the best guidance for visions and goals. However, compared to the previous theoretical review with requirements on a good vision in the different areas of operations with links to SMART goals, even the benchmark is still far from ideal.

**How visions and goals are defined by key persons**

Generally it has not been easy for the respondents to comprehend what a vision is. Answers from interviews very often relate to strategies and goals, what is done and what is planned. The interviewees often start by defining university sustainable development in what is related to campus activities and then to the education and research instead of expressing a vision statement or contents of one.

Out of the six interviews two statements qualifying as vision statements for the sustainable university are presented as examples:

*Own knowledge as part of a larger field for problem solving towards Sustainable Development*

*A university that educates students for a sustainable lifestyle in a sustainable world – it equips them for creating it and for living in it*

Ulf Andersson from Gothenburg University mentions the official policy on sustainable development embedded in the environmental policy. In practical terms there also exists an internal vision and goals for promoting Sustainable Development in all education and research.

The pro vice-chancellor from Malmo University presents the vision as having four parts (translated from Swedish):

Cross-functional (border crossing) action competence and citizen education mean that a student leaves Malmö University with several perspectives to be able to act in the society in a sustainable way. Partnership and shared knowledge mean that the different courses and programs co-operate with the surrounding society. The focus on internalisation means that everybody shall have a multi-cultural competence and be global citizens.

A response from the web survey proposes the vision:
An organisation that makes a difference for Sustainable Development through its research, education and innovation and which also acts as a good example with its own environmental work.

A policy is to show the intentions of the organisation and it should be expressed in the vision as mentioned in the AISHE2-document.

The interviewees had much more to say when it came to the specific issues of education, research and co-operation with society. For the educational vision and objectives the following issues were raised:

- Should SD be part of all education or be given as a separate topic?
- Is SD more relevant in some topics than in others?
- Should education be of SD or for SD (in other words should education promote activism)?
- How can universities support (or control) that SD forms part of different topics?

Nobody advocated SD to be dealt with as a separate topic and the general understanding was that SD can be included in all topics. The question of relevance was harder to answer. Several interviewees mentioned that relevance could be seen as higher in for example humanities and social sciences, but nobody had a proposal of how to define relevance. With reference to the earlier question it was mentioned by a few that it should be up to the lecturer to decide the relevance.

“Everybody should find the relevance by working together with others and doing their part of the whole”.

Education on SD should be both of SD and for SD. Several interviewees stressed the importance of activism. One of the interviewees claims that education should be for SD and should include that the lecturer is clear with his or her values.

“Education should include problem solving and be based on an interdisciplinary approach and a holistic view. The education should prepare the student for life.”

“We learn in what we do what is sustainable. The more applications we have the better the understanding.”

Proposals from the web questionnaires for the educational vision (several respondents emphasise actions):

Students taking their examination should have developed a competency for action that is grounded in basic broad knowledge of all the dimensions of SD. The students should also have the competency required to act for SD in their future working role.

All education shall include a stream of SD both as separate and integrated contributions. It is important that students at an early stage understand how they can contribute to SD in their future profession.

How to support and in some cases control that SD is included is not easy. There should be both carrots and sticks while retaining the university lecturer freedom. Several interviewees
pointed out the importance of recruiting lecturers interested in SD. One interviewee made the point that credibility comes only from within the profession. For convincing an economist an economist is needed and for convincing a medical doctor another medical doctor is needed and so on. A problem with both education and research is that when SD is made to a requirement there will be lip service. One interviewee pointed out that the Swedish National Agency for Higher Education (HSV) does not do any follow up of how the decree on including SD in all education is carried out. When HSV has been directly confronted with this their answer has been that measuring this is too difficult.

For research that works with SD the following things were reviewed:

- Type of research
- How to guide research towards SD

*Research could be within a discipline, multi-, inter- or trans-disciplinary (with trans-disciplinary research being the most suitable for SD).*

*Research should be able to solve real problem in society locally, nationally and globally. Focus should be on issues of strong sustainability and should be cutting edge (weak sustainability is handled by business).*

Several interviewees advocate research for action and some specifically mention action research. Working with real life problems often requires a system view which indicates a multi- or trans-disciplinary approach. Here, there are some problems with the fact that research often is valued within a single discipline context. That is the merit system does not always acknowledge the applied and trans-disciplinary research. One proposal was to try to influence the state and those institutions providing research funds to be more focused on research on SD.

*University management should try to employ professors that are doing research within SD and see that the combined skills of those employed provide interesting options. With professors working with SD their students are bound to choose related topics.*

*Web-questionnaire: To have leading edge research contributing to practical solutions and basic research contributing to system change.*

Control of researchers is difficult since the basic right to independent research. One way of changing this that was proposed is to be explicit on the need for Sustainable Development and to focus on younger researchers who hopefully are not too stuck in old ways of thinking.

In the vision for co-operation with society the importance of practical work was mentioned several times.

*Students should be able to function out in the reality having a balance of knowledge and skills.*

*The relevance of education and research of a university should be validated by society*

This could be interpreted as a requirement of more customer focus from universities analyzing in more detail if the right type of education is offered in addition to measuring if what is provided is done in the right way (for example input from student’s course assessments).
Another interpretation is that with focus on sustainability it would be the societal sustainability which would guide the university in education and research.

Finally to the question how the visionary sustainable university would work in its region. Several persons propose a more active role for the university in the local debate and participation in the regional vision work. It is also important to apply special knowledge relevant for the region as for example Wind Power competence from Gotland University on the island of Gotland that has a high number of wind turbines. One proposal is to work more with schools to support their efforts with SD.

Web-questionnaire: *To co-operate with business and the public sector to solve regional problems (can be used both within research and education).*

**Gaps in university visions and goals when working for SD**

A review of the benchmark universities and comparing their visions and goals with what could be expected from a good vision indicates that there is quite a lot to do. Most visions do not identify the areas of focus but speak generally about SD and the Triple Bottom Line. Since there seems to be a common understanding that universities should provide help to making development more sustainable the logic would be to start from the main problems, like the nine planetary system boundaries and world poverty. Gothenburg University mentions carbon emission, but generally visions deal with the relatively ambiguous Triple Bottom Line. It seems that a basic risk analysis is missing. Global risks should be related to regional and local aspects and then to university work. The indication is that universities seem not fully to have grasped the task of being change agents for sustainable development.

The description of visions coming from people active within the field presents a variety of relevant comments. In the same time the impression is that the structure of the ongoing work is far from optimal. It might not even be relevant looking at the quality of the visions from the perspective of how they should be written when it is not even clear what they should contain.

Before it is relevant to look at the criteria of a good vision as described by Bergman & Klefsjö (2010) we need to know that we are speaking about the right things. See comments below in italic.

- Able to inspire and create a visionary picture of future – *which relates to the main global threats*
- Desirable – *The required changes might not always be desirable at first sight and the first criteria might be instead “Necessary”*
- Clear – *Clear enough for education, research, co-operation with society and campus to enable the definition of SMART-goals*
- Flexible
- Easy to communicate
- Stable – *Global challenges are there to stay, which means the vision should be flexible to be relevant over some time*

Universities could to a certain extent be viewed as change agents for sustainable development. As such they play an important part in the change process from current “Business as Usual”, which according to most research is clearly risking the safety at a global level, to a level of sustainability. For the change agent the task is to see what needs to be changed and which part of this change concerns the change agent. This analysis should affect the mission, the vision, the strategies, objectives and goals of universities.
The interviews and web-questionnaires give better examples of practical ways forward than the official documents found. However, many contributions presented as visions are more often actions. This is understandable. It is difficult to make sense of the entire area of SD. Somebody who wants to act does what seems meaningful and this then becomes SD for the person. The risk with this is not doing the right things.

The preliminary indication is that there could be more grass root activity than there is real managerial commitment. One of the reasons for university management not focusing fully on SD could be that in spite of the existing law requiring this there is little or no follow-up from the state.

**Conclusions and Discussion**

From a business management point of view the situation for vision and goals on SD seems to be poor. Even if one problem for universities could be the fact that the concepts of mission, vision, policy and strategy are not always fully understood by employees the main problem could be lack of management commitment for change towards sustainability. That is, even if the vision and goal documents would be well prepared technically the effects could still be limited due to lack of management commitment. The perceived drivers for change in the university world seem weak in spite of the apparent urgency when looking at how we already now are crossing safe operating limits for humanity. Rockström & al. (2009) note that three limits have been transgressed. These are climate change, loss of biodiversity and the global nitrogen cycle. The reasons for not taking note even if severe problems could be around the corner could be the human difficulty to focus on things which are far in time and space. Referring back to Figure 1 the problem could be that the Identity module hosting values is generally too weak, which is indicated by the not so clear structure for visions and goals.

Focus on Sustainable Regional Development is an area of interest to look further into. It is in the region that co-operation with society in terms of education and research can be carried out quite readily, providing options for actions within SD. This requires the same type of change agent approach as mentioned above, studying main regional aspects and relating them to university competencies and capabilities. Basically this is introducing more of customer focus to universities with focus on the customer society. Universities at occasions tend to mainly view students as customers where as another important customer is the employer. Results of the education can only be judged when students enter working life. The results are only indicative, but support earlier findings indicating that there are no major changes in how universities are working with Sustainable Development, not at least to the level required when viewing the global challenges. It can be discussed if these results can be generalised outside of Sweden. If the assumption of weak governmental drivers is correct then the situation is probably worse in most other countries. Universities are conservative organisations where changing content in the topics taught takes time and which often requires strong drivers. Our opinion is that the indications from our work in Sweden most likely can be generalised. That is, universities generally are not living up to their change agent requirements.

Future research with the purpose of finding out to what extent universities are living up to their expected roles as change agents should be of interest. One way of doing this research is to base it on case studies looking in depth at what is done and what could be done for example in the regional context.
References

AISHE 2.0 (2009). www.aishe.info


