University’s contribution to environmental consciousness: state of art and possibilities for the Lithuanian case

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Structure of the presentation

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- Results:
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  - Campus and activities
  - Role in the region
  - Curriculum and research
- Closing remarks
Introduction

- Environmental education is one of the most important tools for seeking sustainable development.
- Higher education plays an important role shaping society into ecologically sound, sustainable one.
- Universities contribute to overall environmental consciousness and behaviour by:
  - offering special courses or topics in the curriculum,
  - by greening the campus,
  - initiating policies and activities
  - including all stakeholders in the processes and contributing regionally.
- Research in Central Eastern Europe (CEE) countries in this field is rather limited.
Aim

to explore how sustainability possibilities are employed in Vytautas Magnus University, Lithuania.

to overview possibilities for improvement.
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Methodological approach 1

Object - Vytautas Magnus University (VMU) in Kaunas, Lithuania.

Vytautas Magnus University is grounded on *Artes liberales* principles, having more than 8800 students.

VMU is organised into 10 faculties (Arts, Catholic Theology, Economics and Management, Humanities, Informatics, Law, Natural Sciences, Political Science and Diplomacy, Social Science, Music Academy), 2 Institutes (Innovative Studies, Institute and Institute of Foreign Languages) and VMU Kaunas Botanical Garden.
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Methodological approach 2


**Activities overview**, based on information provided on the university’s website, personal communication and observations complemented analysis.

**University’s study system and curriculum overview.**

**Survey of students** who choose optional Biomedicine and Physic science courses (*Environmental Science, Biology, Mathematics, Statistics, Logic for Analysis of Reasoning, Information Society Technologies, and Astronomy*).

- Survey conducted in 2011-2012 (during two semesters) where were questioned 438 students, 45.8% of them from *Environmental Science* course students.
- Focus on two students groups:
  - who choose *Environmental Science* and other (*Logic for Analysis of Reasoning, Astronomy*) courses,
  - who *attended and not* the course of *Science world*, which is obligatory to all VMU students.
- Based on environmental values, environmental concern, NEP scale, willingness to assume responsibility.
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Results: VMU general policy

**VMU mission** - is to be „a community-based research, art and study institution, which <...> creates liberal learning conditions for an individual, develops partnerships, takes active part in the life of Kaunas, advances the future of Lithuania, and contributes to the global cultural and academic development“ (VMU strategy, 2012).

Strategic **goals** focus on:
- development of socially active and responsible community,
- ensuring studies favourable for the development of talents and personalities,
- development of research and art, international partnership,
- and creation of **harmonious** and creative environment.

Environmental aspects in two of **sub-goals** referring to institutional culture of VMU and aiming at the implementation of „**environment friendly University idea**“ based on **principles of sustainable development and social responsibility** (goals 1.2 and 5.5, VMU strategy, 2012).

**VMU Kaunas Botanical garden** is identified as university’s subdivision **conducting environmental education functions for a wider society** (VMU Statute, 2012).
Results: VMU environmental policy


**Covered environmental aspects:**
- natural water systems,
- resource consumption,
- air pollution,
- waste,
- accidents,
- cultural and natural heritage,
- and environmental education

**Some environmental protection targets for 2013/2014** (VMU environmental protection programme, 2013):
- reducing paper-based documentation by 5%,
- reducing electricity consumption by 10%
- contributing to conservation of at least 2 endangered plant species in Kaunas Botanical garden.

**Some general monitoring indicators (and targets):**
- electricity consumption (kWh),
- water consumption (m³/1000 students),
- natural gas consumption (kWh),
- paper used (kg/1000 alumni),
- number of environmental activities implemented

**Challenges:**
- environmental policy is rather a repetition of one of strategic goals rather an overarching environmental or sustainability framework.
- consistency between documents, indicators and targets is lacking.
- responsibilities, assessment, reporting and frequency is not clear.
Results: campus, top down and bottom–up initiatives 1

University takes part in number of projects and activities related to environmental and social responsibility and declares to be environmental friendly one:

• renovation of university buildings => contributing to energy saving and climate mitigation.

• European GreenLight Programme since 2008 => reducing energy consumption from indoor and outdoor lighting and reducing related pollution and mitigating climate change.

• University also runs the initiative “VMU Go Green“:

  • Green zone where students can grow vegetables was established in the inner yard of one of university building representing possibilities for urban greenings.

  • “Be Smart (Re)Use Paper!” calls to use again one-side printed-paper; making photocopies on such paper cost less; calculations are going to be made of how many trees have been saved and a corresponding number of trees are going to be planted additionally at VMU Kaunas Botanical Garden.

  • Other calls of “GoGreen”: think before printing, promotion of cycling and public transport use, waste sorting, stairs climbing, energy saving, refusing of disposable tea and coffee cups.
Results: campus, top down and bottom up initiatives 2

Bottom-up initiatives are also prevailing at VMU. Only Department of Natural Sciences holds two student organizations:
  • academic community of young scientists “Modusas”
  • environmental studies club „Disoma“=> the most recent activity is waste sorting and plastic bottle caps campaign, aiming at gathering plastic bottle caps and making a mosaic (target 13000 caps).

Challenges:

• some environmental statements or initiatives cannot be fulfilled in reality and remain only declarative claims. For ex. campaign “Be Smart (Re)Use Paper!“ does not run in full in all indicated places.

• initiatives lack reporting (even official university reports lack data on energy, water consumption, and focuses on resource consumption only in the form of expenses).

• sole intentions are quite often being “locked-in” until formal acceptance is given, for ex. waste sorting gained no attention for a long time thus students’ initiatives were prevailing.
Results: role in the region

One of the VMU aims is „actively participate in public policy of Lithuania by encouraging and enabling members of the University community to initiate, prepare and submit proposals for improvement in the areas of education, culture, politics, economy and other“ (VMU strategy, 2012) and to prepare high-level specialist, contributing to economy, culture, and education in Lithuania (Strategic action plan, 2013).

• VMU actively holds and initiates wide spectrum of cultural, political and social activities, like clubs, theatre, events, concerts, lectures and discussions, etc. for the University community as well as wider public. 460 cooperation agreements.
  
  • Various festivals, seminars, open lectures for the public (for ex. Plant Admiration Day, “Birds comes home” initiative and so on) by VMU Kaunas Botanical garden.

• Academic stuff expertise and work in various commissions of university:
  
  • National commission on sustainable development.

Some environment education projects for the public are implemented only as unitary activity attracting EU or other funds finances.
Results: research

Clusters, i.e. groups of researchers and research centres, perform research at the university.

Most of environment related projects are carried out under Faculty of Natural Sciences:

- Positive health effects on the natural outdoor environment in typical populations of different regions in Europe (FP7),
- Wastewater toxicity assessment strategy (EU structural support),
- Air quality monitoring for different towns.

Clusters get finance from the VMU Science Foundation and projects they are involved. However, no sustainability criteria is applied then evaluating applications for VMU Science Fund.
Results: curriculum

All students have to attend obligatory Science World course, which introduce some environmental and sustainability topics.

All students have to choose at least one course from Biomedicine and Physic science course group (Environmental Science, Biology, Mathematics, Statistics, Logic for Analysis of Reasoning, Information Society Technologies, and Astronomy) during the first years of studies.

Study programs like Environmental science and ecology, Biology offer environment related courses according their programmes aims, purely sustainability issues are introduced in Environmental Management master study programme, some related issues are under master study programme Energy and environment.
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Results: curriculum (survey results)

*Table 2.* Mean differences among students’ groups who attended *Environmental Science* and other (Logic for Analysis of Reasoning, Astronomy) courses and mean differences among students, who attended the course of *Science world* and not

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Environmental science and other courses</th>
<th>Attended Science world or not</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Environmental concern</td>
<td>1,8</td>
<td>0,05</td>
</tr>
<tr>
<td>NEP</td>
<td>-0,682</td>
<td>0,42</td>
</tr>
<tr>
<td>Environmental values</td>
<td>0,44</td>
<td>0,5</td>
</tr>
<tr>
<td>Willingness to assume responsibility of environmental problems solution</td>
<td>-1,5</td>
<td>0,19</td>
</tr>
</tbody>
</table>

- *Science world* course contributed to willingness to assume responsibility of environmental problems.
- *Environmental science* course increased the students’ environmental concerns to compare to the other courses (*Logic for Analysis of Reasoning, Astronomy*).
- Obligatory course on nature sciences particularly on humans impact on environment could be an option for other universities to promote sustainability.
- During special environmental courses it is important to provide more information about students’ behaviour consequences and responsibilities.
Closing remarks and recommendations

- Progress in commitment for sustainability in VMU, Lithuania.
- Policies and activities have to be more consistent and continued, rather than fragmented and occasional.
- Increasing competition on both national and international level is forcing university to engage more and more into sustainability.

- **Areas of improvement:**
  - Overall changes on the *national policy* regarding sustainability of higher education in Lithuania.
  - Inclusion of sustainability issues in university's *planning and priorities*.
  - “Profit mentality” should be challenged.
  - *Curriculum assessment*.
  - *Increasing awareness, participation, communication* and continued *monitoring and reporting*.
  - *Partnership* with external stakeholders.
Thank you!

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