University Culture – Quo Vadis?
Prospects of environmental science-policy interface in Finland up to 2020

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External pressures to universities

- **Business interests**
  - Production of competent labour
  - From innovations to products

- **Governmental interests**
  - Production of competent labour
  - Increasing efficiency

- **Ideological interests**
  - Demand of politically correct research and education
  - Demand for critical approach

- **Environmental interests**
  - Science based products harming the environment
  - Discovery of non-visible environmental problems
  - Mitigation of environmental problems
Internal pressures to universities

- Decentralisation of academic freedom
  - Budget plans
  - Freedom of opinion

- Staff empowerment
  - From chancellors to professors
  - From professors to department boards

- Student empowerment
  - Access to department boards, university senate and the like
  - From the object to the subject of education & learning
Research questions

• How to deal with the pressures and changes in the university culture?
• How will the university culture evolve in the future?
• What is the environmental point of view to these changes?
The case study is part of the project

- **Title:** Agora 2020 – Qualitative and quantitative needs for future environmental education
- **Funding:** 290k€ Ministry of Education Finland & ESR
- **Duration:** 2005-2007
- **Director:** Markku Wilenius
- **Project manager:** Johanna Kohl
- **Researchers:** Tuomo Kuosa, Sofi Salonen, Petri Tapio, Sarianne Tikkanen
Agora 2020 project outline

- Literature review
- Two-rounded Delphi study
  - First round questionnaire and interview
  - Second round questionnaire
  - Scenarios of the future of sustainability education
- Future workshops for interest-groups
 Twelve themes in the Delphi study

**General themes**
- University culture
- Practical vs academic
- General working skills
- Environmental vs sustainable development (SD) education
- Emphasis on the dimensions of SD

**Environmental themes**
- Demand of degree levels
- Demand by employer type
- Knowledge of facts
- Value base
- Interdisciplinarity
- Environmental professionals’ roles
- A list of separate statements
## Traditional and disaggregative Delphi method

<table>
<thead>
<tr>
<th>Delphi features</th>
<th>Traditional</th>
<th>Disaggregative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Similarities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideal</td>
<td></td>
<td>Best argument wins</td>
</tr>
<tr>
<td>Transparency</td>
<td></td>
<td>Anonymity of arguments</td>
</tr>
<tr>
<td>Iteration</td>
<td></td>
<td>Multiple rounds</td>
</tr>
<tr>
<td><strong>Differences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>Consensus</td>
<td>Dissensus</td>
</tr>
<tr>
<td>Goal</td>
<td>Accurate prediction</td>
<td>Alternative scenarios</td>
</tr>
<tr>
<td>Feedback</td>
<td>Median and interquartiles</td>
<td>All responses or response groups</td>
</tr>
<tr>
<td>Statistical test, e.g.</td>
<td>ANOVA between rounds</td>
<td>Cluster analysis</td>
</tr>
</tbody>
</table>
Material and methods

- Analysis of expert opinions with Disaggregative Policy Delphi (DPD)
- Two-rounded application
  - Round I: Questionnaire and rather open interview (n=23)
  - Round II: Questionnaire (18 respondents, n=36)
- Cluster analysis of quantitative material
  - Probable and preferable of each respondent were treated as separate cases in the statistical runs
  - Each of the 12 themes were analysed separately
- Qualitative content analysis of the interviews and written arguments (not presented here)
Environmental science – policy interface
Goal setting and information flow

<table>
<thead>
<tr>
<th>Role of environmental science</th>
<th>Environmental policy target setting</th>
<th>Direction of information flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outsider</td>
<td>Outside science</td>
<td>No information flow</td>
</tr>
<tr>
<td>Agent of societal change</td>
<td>From science to society</td>
<td>From science to society</td>
</tr>
<tr>
<td>Subcontractor</td>
<td>From society to science</td>
<td>From science to society</td>
</tr>
<tr>
<td>Changing role</td>
<td>Complex, context dependent</td>
<td>Complex context dependent</td>
</tr>
</tbody>
</table>
How to deal with the pressures to the university culture?

(Beckman 1989; Eronen & Tapio 1997)

How to deal with the pressures to the university culture?

(Beckman 1989; Eronen & Tapio 1997)
### Actor roles and information flows

<table>
<thead>
<tr>
<th>University culture</th>
<th>Temple</th>
<th>Oasis</th>
<th>Factory</th>
<th>Bazaar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>Bishop</td>
<td>Colleague</td>
<td>Controller</td>
<td>Manager</td>
</tr>
<tr>
<td>Teacher &amp; researcher</td>
<td>Priest</td>
<td>Colleague</td>
<td>Labor</td>
<td>Entrepreneur</td>
</tr>
<tr>
<td>Other employee</td>
<td>Verger</td>
<td>Colleague</td>
<td>Service staff</td>
<td>Facilitator</td>
</tr>
<tr>
<td>Student</td>
<td>Congregant</td>
<td>Colleague</td>
<td>Raw material</td>
<td>Client</td>
</tr>
<tr>
<td>MSc</td>
<td>Confirmed</td>
<td>Colleague</td>
<td>Product</td>
<td>Client</td>
</tr>
<tr>
<td>Government</td>
<td>Patron saint</td>
<td>Patron</td>
<td>Investor</td>
<td>Client</td>
</tr>
<tr>
<td>Business</td>
<td>Tax payer</td>
<td>Tax payer</td>
<td>Consumer</td>
<td>Client</td>
</tr>
<tr>
<td>Wider public</td>
<td>Pagan</td>
<td>Audience</td>
<td>Consumer</td>
<td>Consumer</td>
</tr>
</tbody>
</table>
The futures of university culture

Beginning point 1990
Middle point 2005
End point 2020

External goal setting
Internally hierarchical
Internally open
Internal goal setting
'TEMPLE'
'OASIS'
'FACTORY'
'BAZAAR'

Cluster 1
Cluster 2
Cluster 3
Cluster 4
Cluster 5
Cluster 6
## University culture SWOT analysis

<table>
<thead>
<tr>
<th>TEMPLE</th>
<th>OASIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strength</strong></td>
<td><strong>Opportunity</strong></td>
</tr>
<tr>
<td>The ones who know best make the decisions</td>
<td>Knowledge economy</td>
</tr>
<tr>
<td><strong>Weakness</strong></td>
<td><strong>Threat</strong></td>
</tr>
<tr>
<td>Lack of reflection of development outside own scientific field</td>
<td>‘Ivory tower’ exclusion Lack of funding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FACTORY</th>
<th>BAZAAR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strength</strong></td>
<td><strong>Opportunity</strong></td>
</tr>
<tr>
<td>Efficient use of resources</td>
<td>Diminishing critique of using public funding</td>
</tr>
<tr>
<td><strong>Weakness</strong></td>
<td><strong>Threat</strong></td>
</tr>
<tr>
<td>Increasing bureaucratic control</td>
<td>Loosing academic freedom and therefore novelty of ideas</td>
</tr>
</tbody>
</table>
Discussion

- From the traditional environmental point of view
  - New ideas and solutions to environmental problems are needed
  - Strong economic or political interests might hinder developing efficient environmental measures
  - Oasis

- From the societal point of view of
  - Environmental issues need to be integrated into governmental and business decision-making
  - The needs of the decision-maker should be taken into account
  - Bazaar